

Service Manual

PIONEER
The future of sound and vision.

• KE-4343



**ORDER NO.
CRT 1143**

CASSETTE CAR STEREO WITH FM/AM ELECTRONIC TUNER

KE-4343

UC

KE-3525

US

KE-3333

UC

KE-2323

UC

Note:

- See the separate manual CX-166 (CRT1094) for the cassette mechanism description.

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10. SCHEMATIC CIRCUIT DIAGRAM			
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1957

1. SPECIFICATIONS

General

Power source	14.4 V DC (10.8 — 15.6 V allowable)
Grounding system	Negative type
Max. current consumption	
(KE-4343, KE-3525, KE-3333)	2.5 A
(KE-2323)	1.8 A
Dimensions (chassis)	170(W) × 50(H) × 130(D) mm
	[6-3/4(W) × 2(H) × 5-1/8(D) in.]
(nose)	105(W) × 42(H) × 36(D) mm
	[4-1/8(W) × 1-5/8(H) × 1-3/8(D) in.]
Shaft interval	130 or 147 mm (5-1/8 or 5-3/4 in.)
Weight	1.3 kg (2.9 lbs.)

Amplifier (KE-4343, KE-3525, KE-3333)

Continuous power output is 3.2 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.	
Maximum power output	8.5 W × 2/7 W × 4 (EIAJ)
Load impedance	4 Ω (4 — 8 Ω allowable)
Preout output level/Impedance	500 mV/100 Ω
Tone controls (bass)	±10 dB (100 Hz)
(treble)	±10 dB (10 kHz)
Loudness contour	+8 dB (100 Hz) (volume: -30 dB)

Amplifier (KE-2323)

Continuous power output is 3.2 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.	
Maximum power output	8.5 W × 2 (EIAJ)
Load impedance	4 Ω (2 — 8 Ω allowable)
Preout output level/Impedance (RCA)	500 mV/100 Ω
Loudness contour	+8 dB (100 Hz) (volume: -30 dB)

Tape player

Tape	Compact cassette tape (C-30 — C-90)
Tape speed	4.76 cm/sec. (+0.14 cm/sec., -0.05 cm/sec.)
Fast forward/rewind time	Approx. 100 sec. for C-60
Wow & flutter	0.13% (WRMS)
Frequency response	50 — 14,000 Hz (±3 dB)
Stereo separation	45 dB
Signal-to-noise ratio	52 dB (IHF-A network)

FM tuner

Frequency range	87.9 — 107.9 MHz
Usable sensitivity	12 dBf (1.1 μV/75 Ω, mono)
50 dB quieting sensitivity	17 dBf (1.9 μV/75 Ω, mono)
Signal-to-noise ratio	70 dB (IHF-A network)
Distortion	0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response	50 — 15,000 Hz (±3 dB)
Stereo separation	35 dB (at 65 dBf, 1 kHz)
Selectivity	70 dB (2ACA) (±400 kHz)

AM tuner

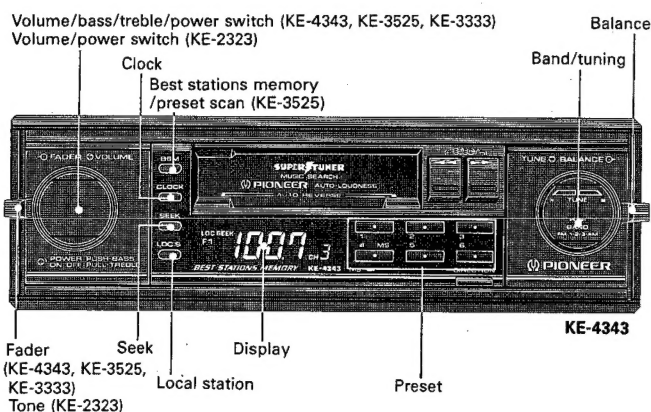
Frequency range	530 — 1,620 kHz
Usable sensitivity	18 μV (25 dB) (S/N: 20 dB)
Selectivity	50 dB (±10 kHz)

These specifications were determined and are presented in accordance with specification standards established by the Ad Hoc Committee of Car Stereo Manufacturers.

Note:

Specifications and the design are subject to possible modification without notice due to improvements.

2. USING THE RADIO



• Before attempting operation...

- Set the fader control to the left horizontal. (KE-4343, KE-3525, KE-3333)
- Since the set is designed preferentially for tape play, eject a cassette tape, if mounted, before operating the radio.

1. Turning the power switch to the right causes power to switch ON and the current frequency to appear on the display.
2. Press the band switch to select the band.
3. Press the seek button and the seek tuning indicator will be displayed.
4. Turn the tuning knob to the left or right to tune in the desired frequency. (Turning to the right will increase the frequency.)
5. Adjust the volume and balance.

KE-4343, KE-3333

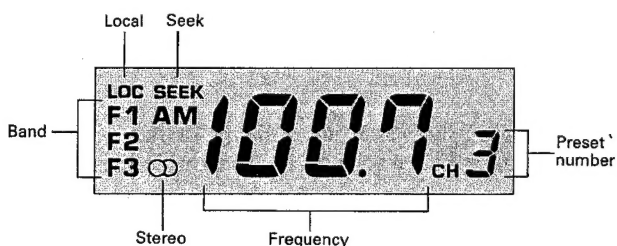
6. Adjust the tone. To adjust bass, turn the volume knob while pressing it. For treble, turn the volume knob after it has been pulled out until it clicks into place. Return the volume knob after adjusting the tone.

KE-2323

6. Adjust the tone.

• To enter a frequency into the preset memory...

7. Hold down one of the preset buttons (1 — 6) for approximately two seconds. The frequency is stored in memory (assigned to the preset button pressed) once the preset number stops flashing on the display. Six FM1 frequencies, six FM2 frequencies, six FM3 frequencies and six AM frequencies can be entered.



● Auto-Loudness

When playing back a tape or listening to the radio at low volume, the low tone is automatically emphasized.

● Clock Switch

Each press causes the display to switch between clock and frequency.

● Best Stations Memory Button

Automatically tunes strong frequencies and assigns them to preset buttons 1 through 6 for one-touch automatic tuning. The best stations memory function is activated by pressing this button for approximately 2 seconds. The best stations memory function is indicated by ——— flashing on the display, and this function can be canceled by pressing the band switch. Once frequencies have been assigned to the preset buttons, each one is tuned in and played for eight seconds. Finally the frequency assigned to preset button 1 is tuned in to complete the procedure.

- 6 best (strongest) frequencies are memorized in the 6 preset buttons in the order of their strength, the strongest one being assigned to preset button 1.
- The frequencies previously assigned to the preset buttons are retained when 6 frequencies cannot be located.
- The best stations memory is in operation while ——— is flashing on the display.

● Local Station Switch

Pressing this switch increases the seek threshold level so that only relatively strong stations can be tuned in (local indicator will illuminate on the display). Local seek threshold level can be selected among four levels for FM and two levels for AM.

Holding this switch down for approximately 2 seconds and then turning the tuning knob to the right changes the display from L-1, L-2, L-3 to L-4. Turning the tuning knob to the left changes the display from L-4, L-3, L-2 to L-1. (L-1 and L-2 for AM.) The bigger the number, the higher the seek threshold becomes and only relatively strong stations can be tuned in.

● Fader Control (KE-4343, KE-3525, KE-3333)

This control is used to adjust the balance between the front and rear speakers when using a 4-speaker system. Turning the control upwards decreases the volume of the rear speakers, while turning it downwards decreases the volume of the front speakers. With 2-speaker systems, set this control to a horizontal position.

Seek Tuning

Press the seek button, and tuning to the next higher or lower broadcast on the band can be accomplished automatically by simply turning the tuning knob to the left or right. FM frequencies change in 0.2 MHz steps while those in the AM band change in 10 kHz steps.

Preset Tuning

Pressing the preset button instantly tunes in the frequency programmed in the memory for that button.

Manual Tuning

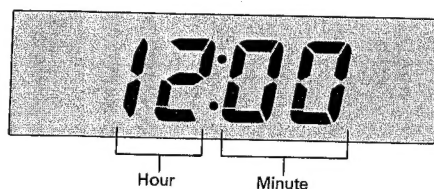
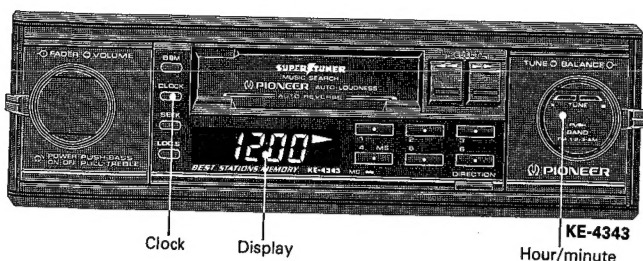
When manual tuning is employed, FM frequencies change in 0.2 MHz steps while AM frequencies change in 10 kHz steps.

1. Press the seek button and the seek tuning indicator will disappear from the display.
2. Change the frequency by turning the tuning knob to the left or right. Turning the knob once will change the frequency one step (see above). Holding the tuning knob in either direction will successively change the frequency at the prescribed step.

Preset Scan Tuning (KE-3525)

Pressing the preset scan button (CH indicator flashes) causes previously stored frequencies to be tuned in sequentially for eight seconds each. Press again when the desired frequency is tuned in to cancel preset scan tuning.

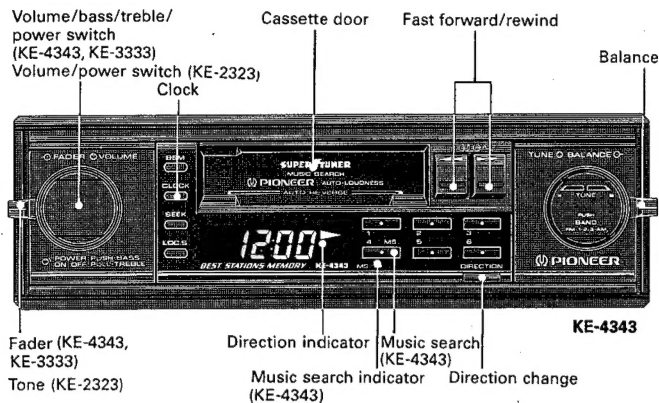
3. SETTING THE TIME



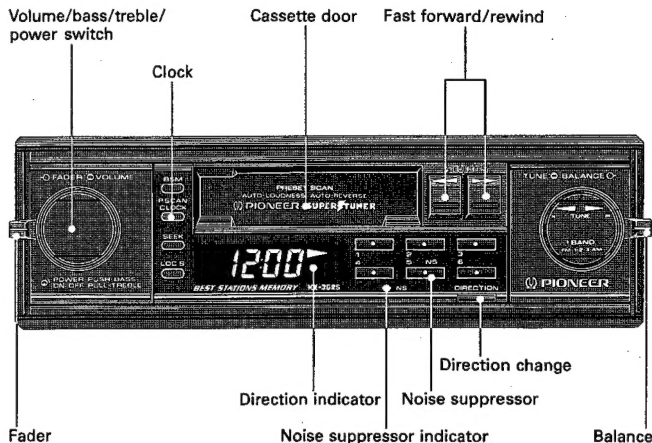
1. Press the clock switch to switch to the time display.
2. Each turn of the hour/minute control knob to the left while the clock button is depressed advances the hour setting one hour, while each turn to the right advances the minute setting one minute. Holding the control knob in either position results in high speed advance of the respective setting.

4. USING THE TAPE DECK

● KE-4343, KE-3333, KE-2323



● KE-3525



● Before attempting operation...

- Set the fader control to the left horizontal. (KE-4343, KE-3525, KE-3333)

- Turning the power switch to the right causes power to switch ON.
- Loading a cassette tape into the load slot causes playback to begin automatically.
- Adjust the volume and balance.

KE-4343, KE-3525, KE-3333

- Adjust the tone to the desired position. To adjust bass, turn the volume knob while pressing it. For treble, turn the volume knob after it has been pulled out until it clicks into place. Return the volume knob after adjusting the tone.

KE-2323

- Adjust the tone.
- When tape playback reaches the end of the tape, playback will automatically switch from the side being played to the opposite side (ie. Side A to Side B or vice versa) (Auto-reverse). To eject the tape during playback, simultaneously press the fast forward and rewind buttons.

- A loose or warped label on a cassette tape may interfere with the eject mechanism of the unit or cause the cassette to become jammed in the unit. Avoid using such tapes or remove such labels from the cassette before attempting use.

- Do not try to eject the cassette immediately after insertion, as it will cause malfunction. Wait a few seconds.

KE-3525, KE-3333, KE-2323

- Be sure to eject the tape when the vehicle's ignition is turned OFF. Leaving the tape in the unit can deform the pinch roller causing wow and flutter during tape playback.

● Fast Forward/Rewind

Since the transport can be in either direction, both the left and right high-speed tape transport buttons can be regarded as fast forward/rewind buttons.

For fast forward, press the high-speed tape transport button that corresponds to the direction that is shown by the direction indicator. When the end of the tape is reached, playback will automatically begin from the opposite side of the tape (Auto-reverse).

For rewind, press the button that is opposite that of the direction shown by the direction indicator. When the end of the tape is reached, playback will automatically begin from the beginning of the same side of the tape (Auto-replay).

Fast forward and rewind can be terminated by pressing the respective opposite high-speed tape transport button.

● Direction Change Button

This button is used to switch from one side of the tape to the other (from Side A to Side B or vice versa).

● Noise Suppressor Switch (KE-3525)

Press to reduce tape hiss.

Music Search (KE-4343)

● Returning to the beginning of selection A

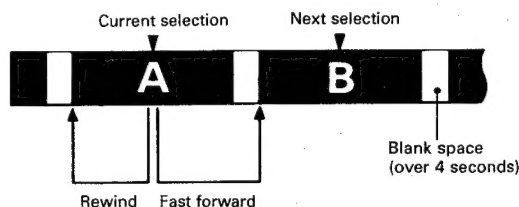
Press the music search button and then the high-speed tape transport button for the direction opposite that shown by the direction indicator. Playback will automatically start from the beginning of selection A.

● Moving from selection A to selection B

Press the music search button and then the high-speed tape transport button that corresponds to the direction shown by the direction indicator. Playback will automatically start from the beginning of selection B.

To enable regular fast forward/rewind operations, press the music search button again to turn the function OFF. The following errors will cause the music search function to operate improperly, even though the unit is not malfunctioning.

- Unrecorded "blank" portions between selections is less than 4 seconds → the blank portion cannot be detected by the unit.
- Pauses in recorded conversations are longer than 4 seconds → the unit reads these as blanks between selections.
- Portions are recorded at very low volume for more than 4 seconds → the unit reads these as blanks between selections.



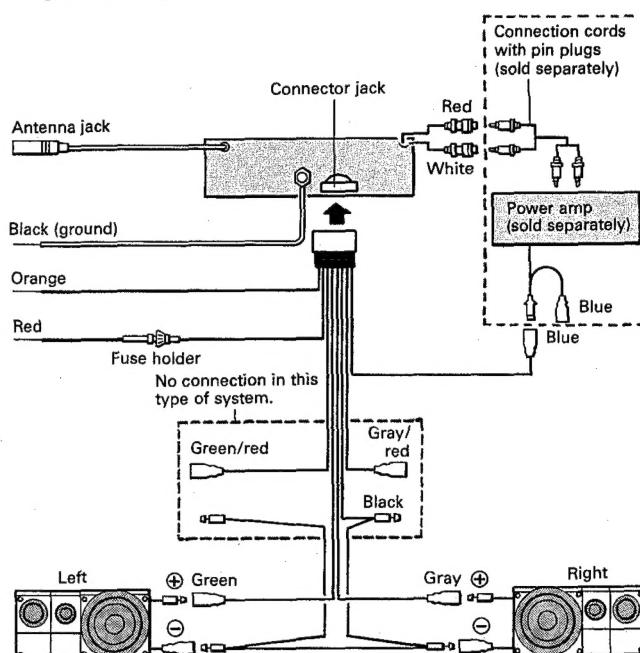
5. CONNECTIONS

Note:

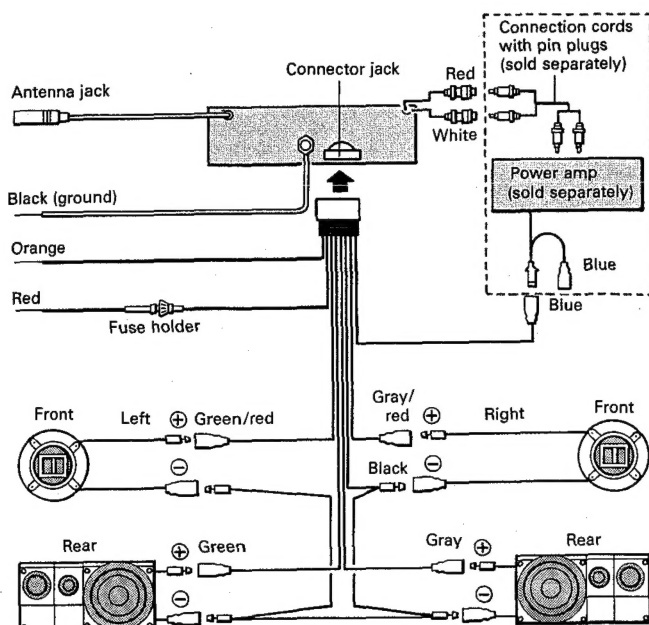
- To avoid shorts in the electrical system, be sure to disconnect the battery \ominus cable before beginning installation.
- Replace fuses only with the types stipulated on the fuse holder.
- Be sure to properly connect the color coded leads. Failure to do so can cause malfunctions.
- Cover unused terminals with tape to prevent electrical shorts.
- Refer to the power amp owner's manual when connecting a power amp (sold separately) to the pin jack. (KE-4343, KE-3525, KE-3333)
- Refer to the power amp owner's manual when connecting a power amp (sold separately) to the pin jack. (KE-4343, KE-3525, KE-3333)

Black (ground)	To vehicle (metal) body.
Blue	System control/Auto-antenna relay control terminal (Max. 300 mA 12 V DC).
Orange	To terminal always supplied with power regardless of ignition switch position.
Red	To electric terminal controlled by ignition switch (12 V DC) ON/OFF.

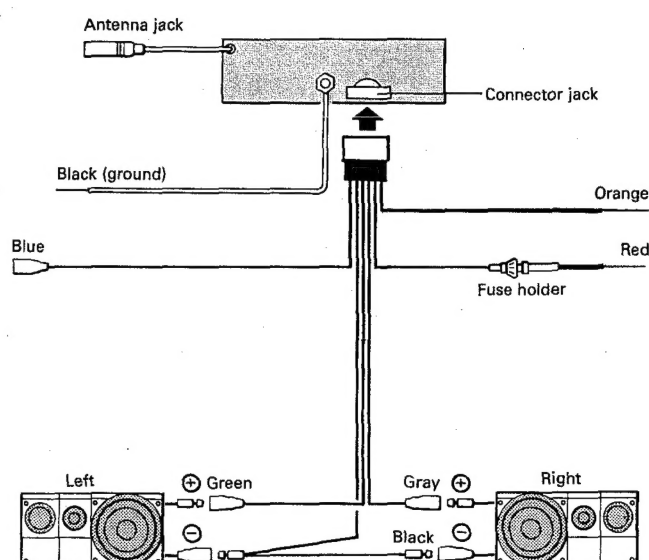
KE-4343, KE-3525, KE-3333 2-speaker system



KE-4343, KE-3525, KE-3333 4-speaker system



KE-2323



6. DISASSEMBLY

• Removing the Case

1. Remove the four screws, and then remove the case.

• Removing the Grille Assy

1. Press tabs at two locations indicated by arrows, and pull out the grille assy.

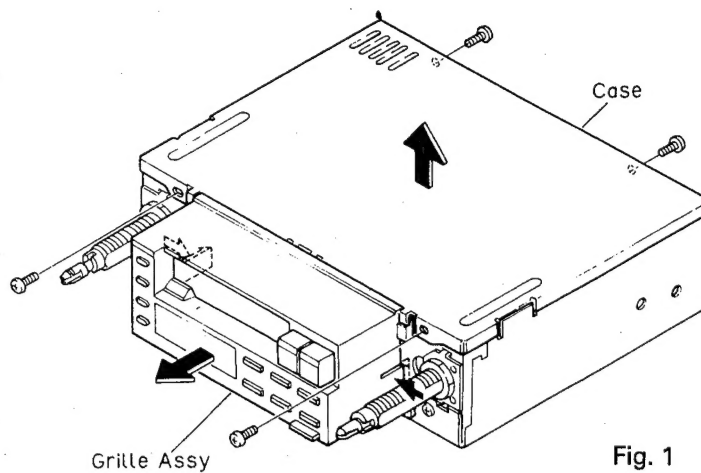


Fig. 1

• Removing the Cassette Mechanism Assy

1. Disconnect the two connectors.
2. Remove the four screws, and then remove the cassette mechanism assy.

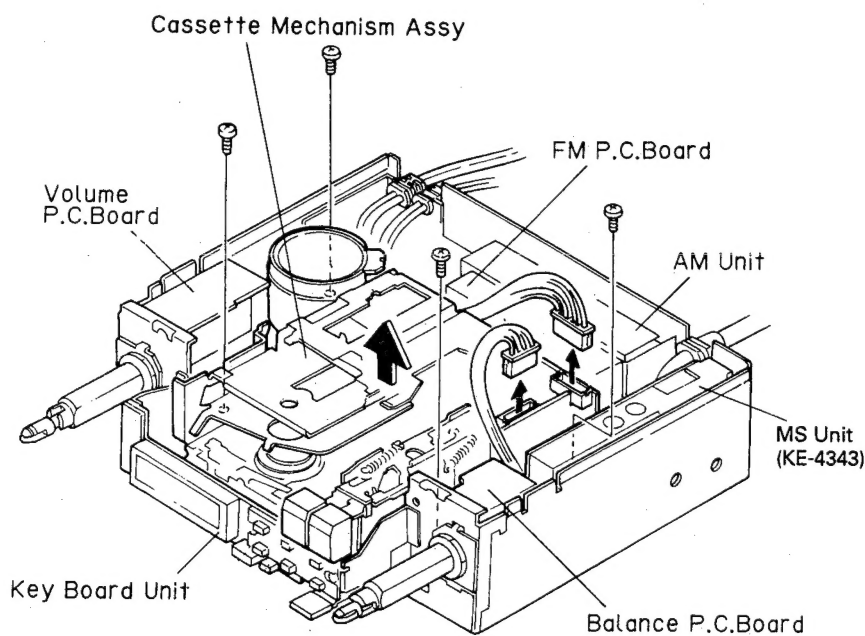


Fig. 2

• Removing the Chassis Unit

1. Remove the five screws.
2. Unbend tab until straight, and then remove the chassis unit.

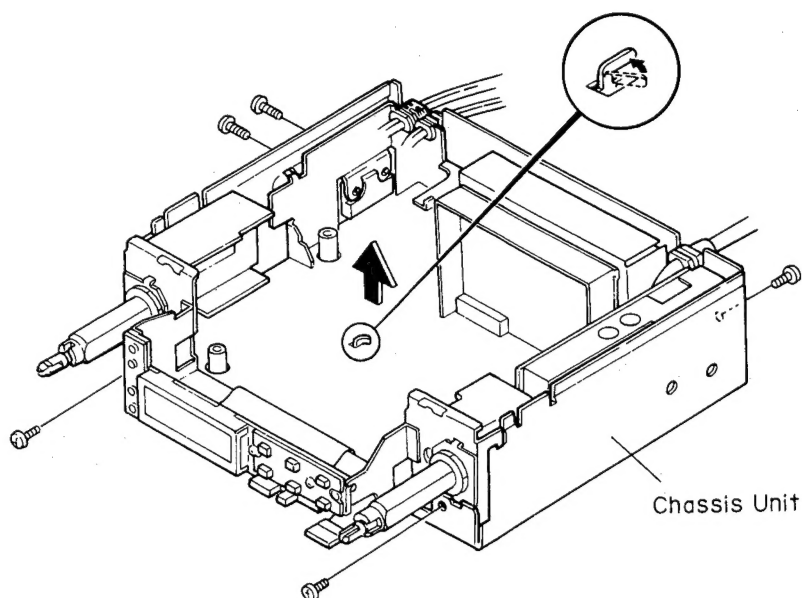


Fig. 3

• Removing the AM Unit, FM P.C.Board and MS Unit

1. Unbend tabs on back of each unit circuit board until straight, and pull out units as shown in illustration.

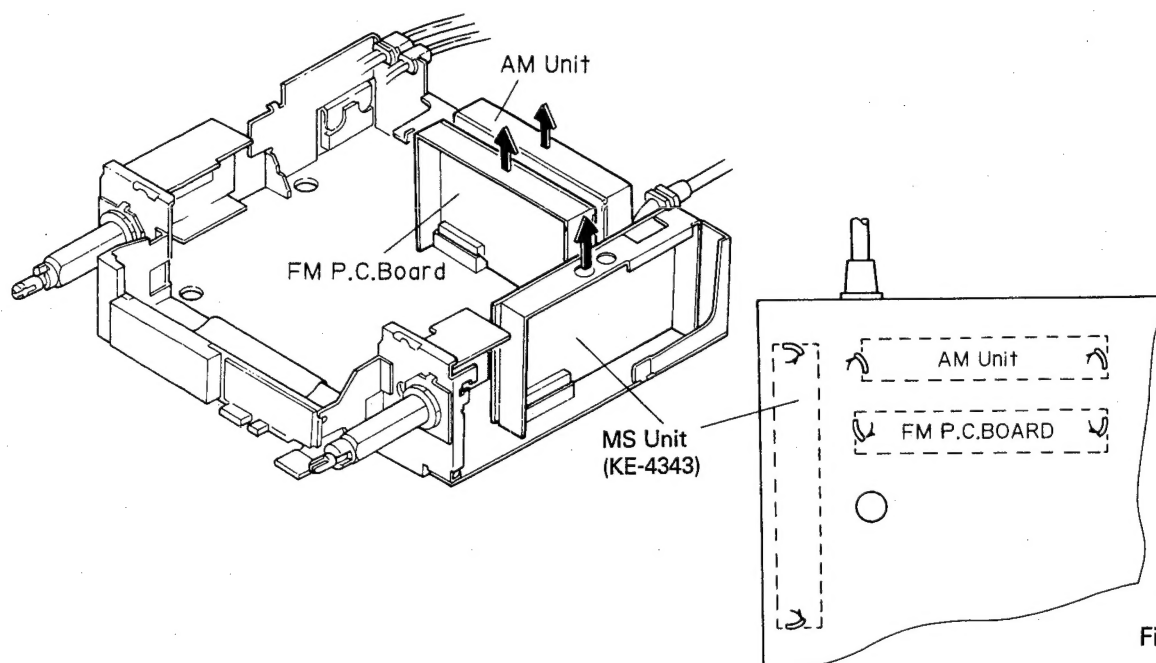


Fig. 4

7. ADJUSTMENT

• Connection Diagram

NOTICE:

Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.

Z: Output impedance of SSG.

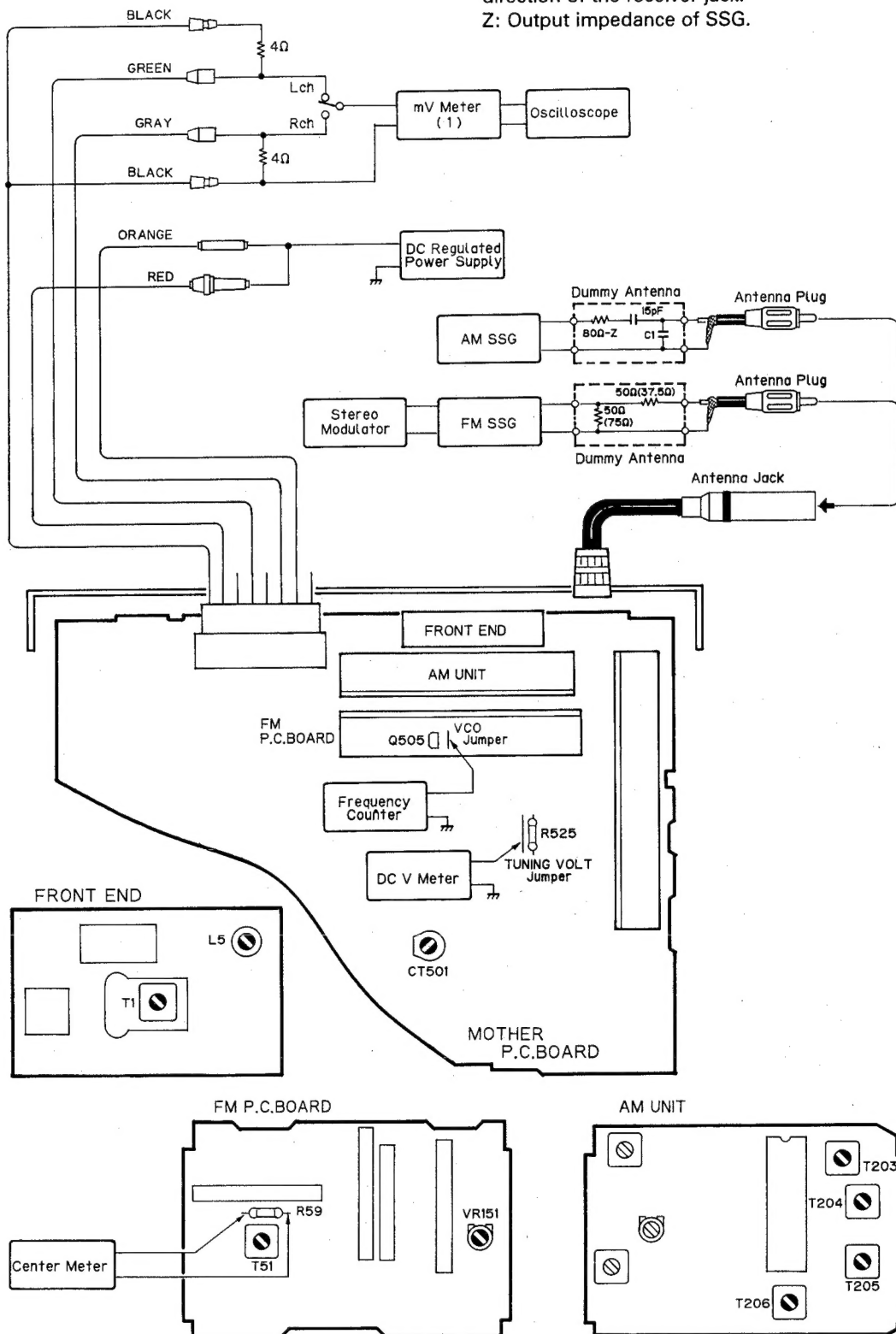


Fig. 5

7. 1 REFERENCE OSCILLATION FREQUENCY ADJUSTMENT

No.		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
1	Set the AM mode.	1,000	CT501	Frequency Counter: 11.71MHz \pm 50Hz

7. 2 AM ADJUSTMENT

	No.	AM SSG (400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level (dB)			
Track- ing	1			530	—	Verify that DC V Meter is more than 2V.
	2			1,620	T203	DC V Meter: Less than 6V
	3	1,000	20	1,000	T204, T205, T206	mV Meter (1): Maximum

7. 3 FM ADJUSTMENT ※ Stereo MOD.: 1kHz, L+R = 90% , Pilot = 10%

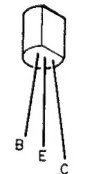
	No.	FM SSG (400Hz, 100%)		Displayed Frequency (MHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (MHz)	Level (dB)			
IF	1	98.1	60	98.1	T51	Center Meter: 0
Track- ing	1			107.9	L5	DC V Meter: Less than 7.4V
	2			87.9	—	DC V Meter: More than 0.7V
	3	98.1	5 — 10	98.1	T1	mV Meter (1): Maximum
Auto Level	1	98.1※	35	98.1	VR151	mV Meter (1): Separation 5dB

● ICs and Transistors

2SD667



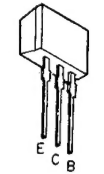
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2SC2498



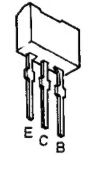
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2SA1048
2SA1150
2SC1740S
2SC2458
2SC3113



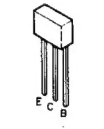
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2SD1859



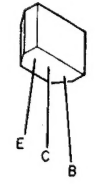
2SC3311A



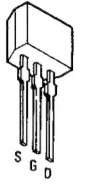
2SK435



2SA933S
2SC536SP
2SD1468S



2SJ105



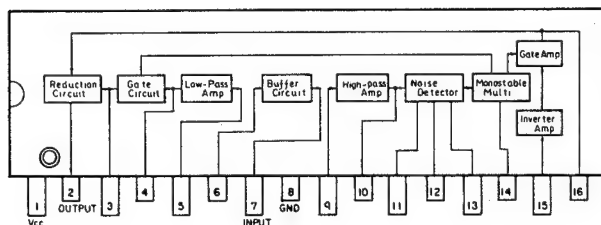
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DTC124ES
DTC143TS

DTA114YS

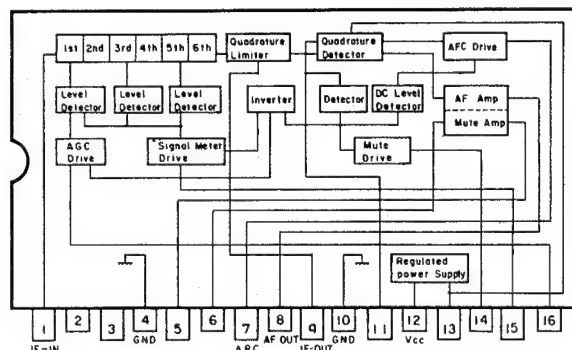
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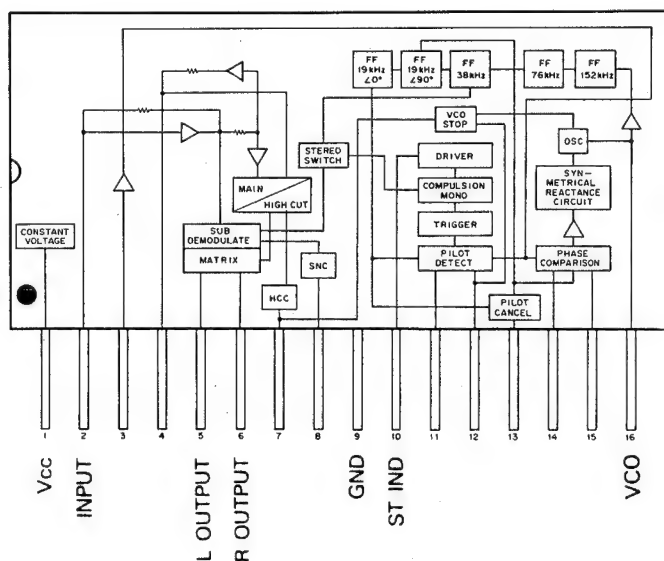
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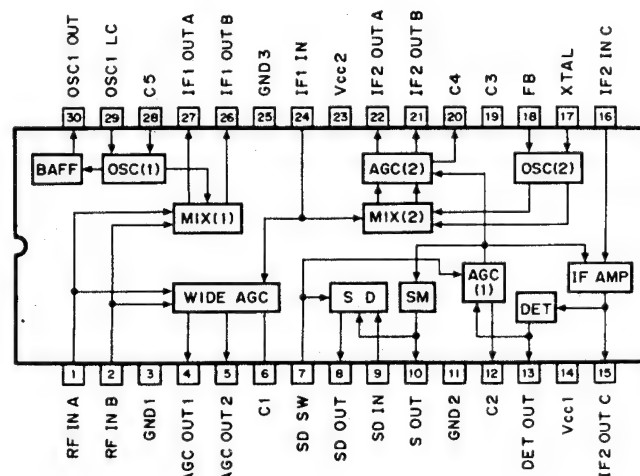
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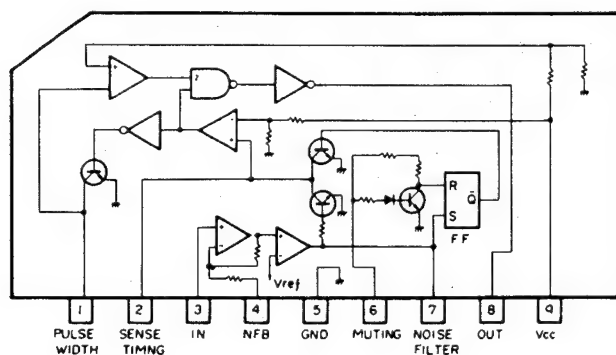
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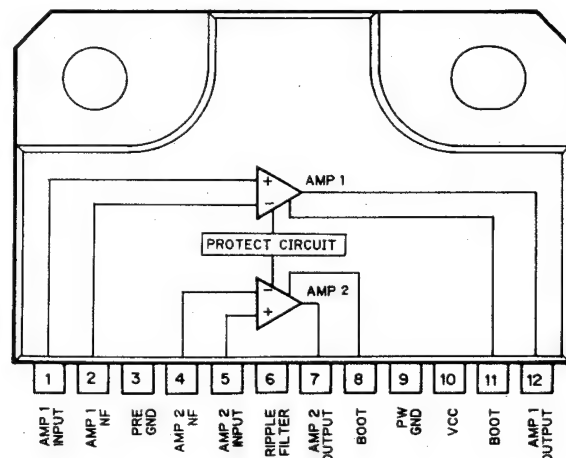
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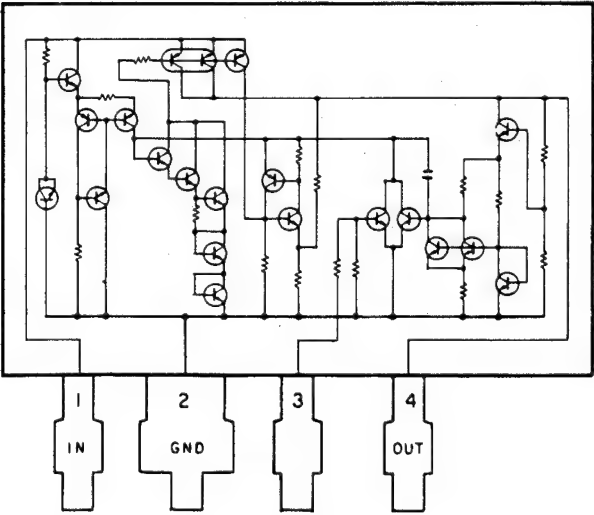
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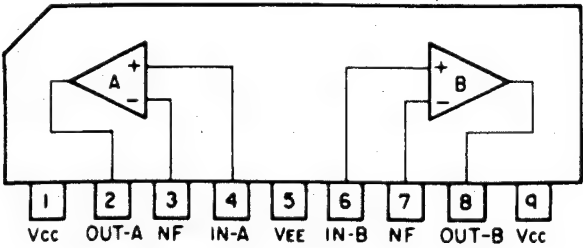
TA7280P



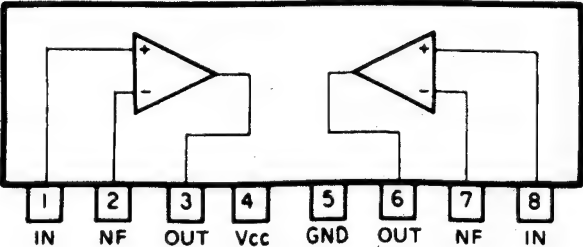
AN6540



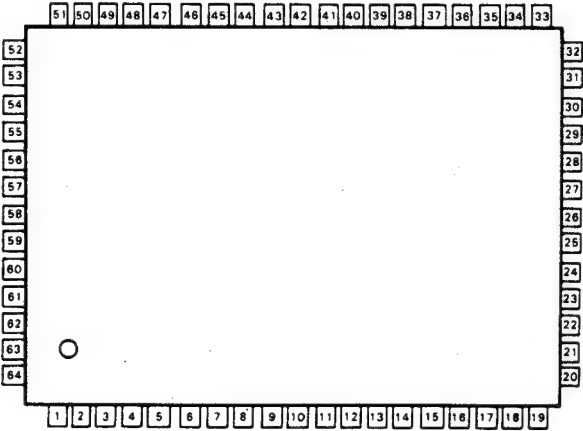
TA75558S



M51522AL

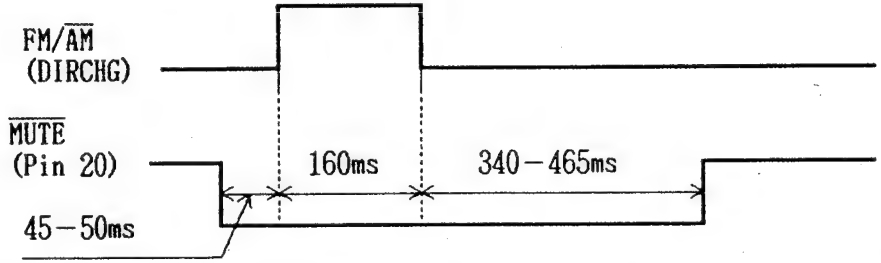


*PD4132



IC's marked by * are MOS type.
Be careful in handling them because they are very
liable to be damaged by electrostatic induction.

● Pin Function (PD4132)

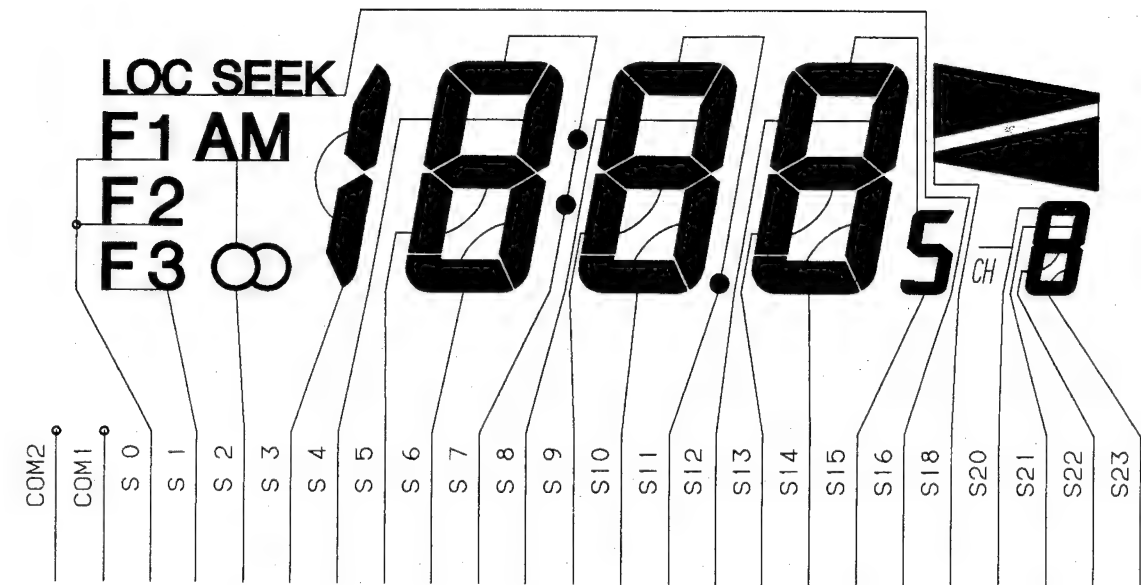
Pin No.	Pin Name	I/O	Function and Operation
1	NC		No connected to internal chips.
2 3	E01 E02	Output	PLL error output. H level output by these terminals when divivision of local oscillator frequency (VCO output) is higher than reference frequency. L level output when lower, this output is applied to a varactor diode, via an external low pass filter. E01 and E02 output identical waveforms.
4 8	GND GND		Ground terminal
5	AM	Input	AM VCO input Inputs 0.6-15MHz(0.3Vp-p MIN) local oscillator reference frequency (VCO output). This terminal is active when direct division system is selected.
6	FM	Input	FM VCO input Inputs 15-150MHz(0.5Vp-p MIN) local oscillator reference frequency (VCO output). This terminal is active when swallow counter method is selected.
7	CE	Input	Chip Enable Device selector signal input. H level during normal device operation, L level when deivce is not being used. PLL is disable status while this terminal is L level. For models without clocks, internal clock and CPU operation is halted while this terminal is L level, and memory is maintained by low demand current(10 μ A MAX). Change of CE terminal from L to H results in device reset and the program to start from address 0.
9	FM/AM (DIRC-HG)	Output	TAPE MODE(TAPE 14 pin "H") Each time the DIRECTION button is pressed, this pin output the signal shown in the following timing chart.  TUNER MODE(TAPE 14 pin "L") When the tape input pin(pin 14) is low(i.e., the tuner is selected), pin 9 control the power of the FM and AM circuits. The output of this pin is determined as follows: "H":FM ON "L":AM ON
10	SEEK	Output	Tuner SEEK output. "L":SEEK, BSM, and P.SCAN

Pin No.	Pin Name	I/O	Function and Operation																								
11 21	LOCL LOCH (MS)	Output Output	<p>TUNER MODE(TAPE 14 pin "L") Halt sensitivity switching terminals controlled by LOC and BSM keys.</p> <table><tr><td></td><td>DX- SEEK(PSCN)</td><td>LOC- SEEK</td><td>BSM-L</td><td>BSM-M</td><td>BSM-H</td></tr><tr><td>LOCL</td><td>L</td><td>H</td><td>L</td><td>H</td><td>H</td></tr><tr><td>LOCH</td><td>L</td><td>L</td><td>L</td><td>L</td><td>H</td></tr></table> <table><tr><td></td><td>During broadcast reception</td></tr><tr><td>LOCL</td><td>L</td></tr><tr><td>LOCH</td><td>L</td></tr></table> <p>TAPE MODE(TAPE 14 pin "H") (MS) pin 21 ----- "H":MS ON "L":MS OFF</p>		DX- SEEK(PSCN)	LOC- SEEK	BSM-L	BSM-M	BSM-H	LOCL	L	H	L	H	H	LOCH	L	L	L	L	H		During broadcast reception	LOCL	L	LOCH	L
	DX- SEEK(PSCN)	LOC- SEEK	BSM-L	BSM-M	BSM-H																						
LOCL	L	H	L	H	H																						
LOCH	L	L	L	L	H																						
	During broadcast reception																										
LOCL	L																										
LOCH	L																										
12	SD	Input	Judges whether or not a FM broadcast is present during auto tuning. A FM broadcast is judged as being present when H level is input.																								
13	$\overline{\text{ST}}$	Input	Inputs stereo broadcast detection signal. Stereo is detected when input signal is L level, and "Stereo" indicator is displayed. Display is cleared when input signal is at H level. "Stereo" indicator is off during mute signal output.																								
14	TAPE	Input	<p>Tape signal input used to change the display modes depending on the clock switch setting. If this pin is set to a high level, the display indicates the tape motion. When this pin is high, the pressing of the clock button causes the following actions:</p> <div><p>Blank display Pressing clock button</p><p>→ Clock display</p><p>↑ Pressing clock button</p></div> <p>When this pin is low, the pressing of the clock button causes the following actions:</p> <div><p>Frequency display Pressing clock button</p><p>→ Clock display</p><p>↑ Pressing clock button</p></div>																								
15	IF OFF SET	Input	Not used.																								

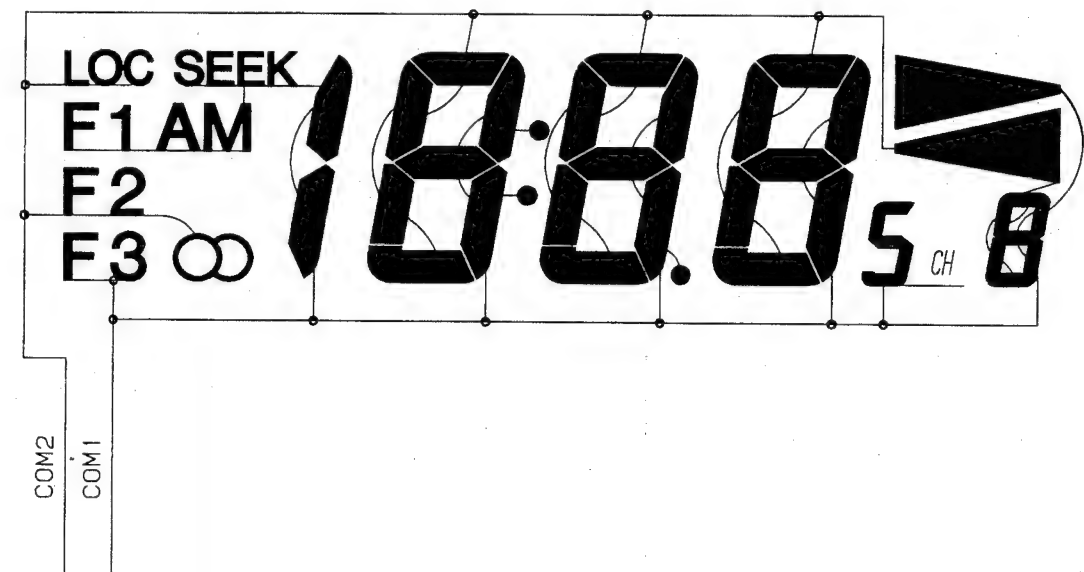
Pin No.	Pin Name	I/O	Function and Operation
16	AM IF	Input	AM band IF counter input terminal. Used for broadcast detection in AM band auto tuning.
17	F/R	Input	When the tape input(pin14) is high, this pin accepts a tape motion signal. When this is H level the "▷" (FWD) indicator lights; when L level, the "◁" (REV) indicator.
18 19	KST4 KST5	Output Output	Key return signal source output.
20	MUTE	Output	This muting output terminal, set to active low, eliminates the shock noise when the PLL lock is disengaged.
22	NS	Output	NS(Noise Supprssor) ON/OFF output terminal. While the deck is in operation, the contents of "NS ON/OFF memory" is output from this pin. This pin goes H level when NS is on. (KE-3525)
23	B/C	Output	Not used.
24 25	XO XI	Output Input	Quartz oscillator connection terminal. 4.5MHz quartz crystal used.
26 58	VDD VDD		Device power supply terminal. 5V \pm 10% voltage supplied.
27	METAL	Output	Each time the METAL button is pressed, this pin alternates between H and L levels, switching the METAL indicator on and off. "H":METAL "L":NORMAL
28 31	KST3 KST0	Output	Key return signal source output
32 55	S23 S0	Output	Segment signal output terminal to LCD. LCD display performed using COM1, COM2 matrices.
56 57	COM1 COM2	Output Output	Common signal terminal to LCD. GND, 1/2VDD, VDD values (5ms interval) output at 100Hz cycle. Segments between these terminals and S0-S23 with \pm VDD potential difference are lit.
59 62	K3 K0	Input	Key matrix input.
63	SL	Input	Station level analog voltage input.
64	INT	Input	Not used.

• LCD (CWW1054)

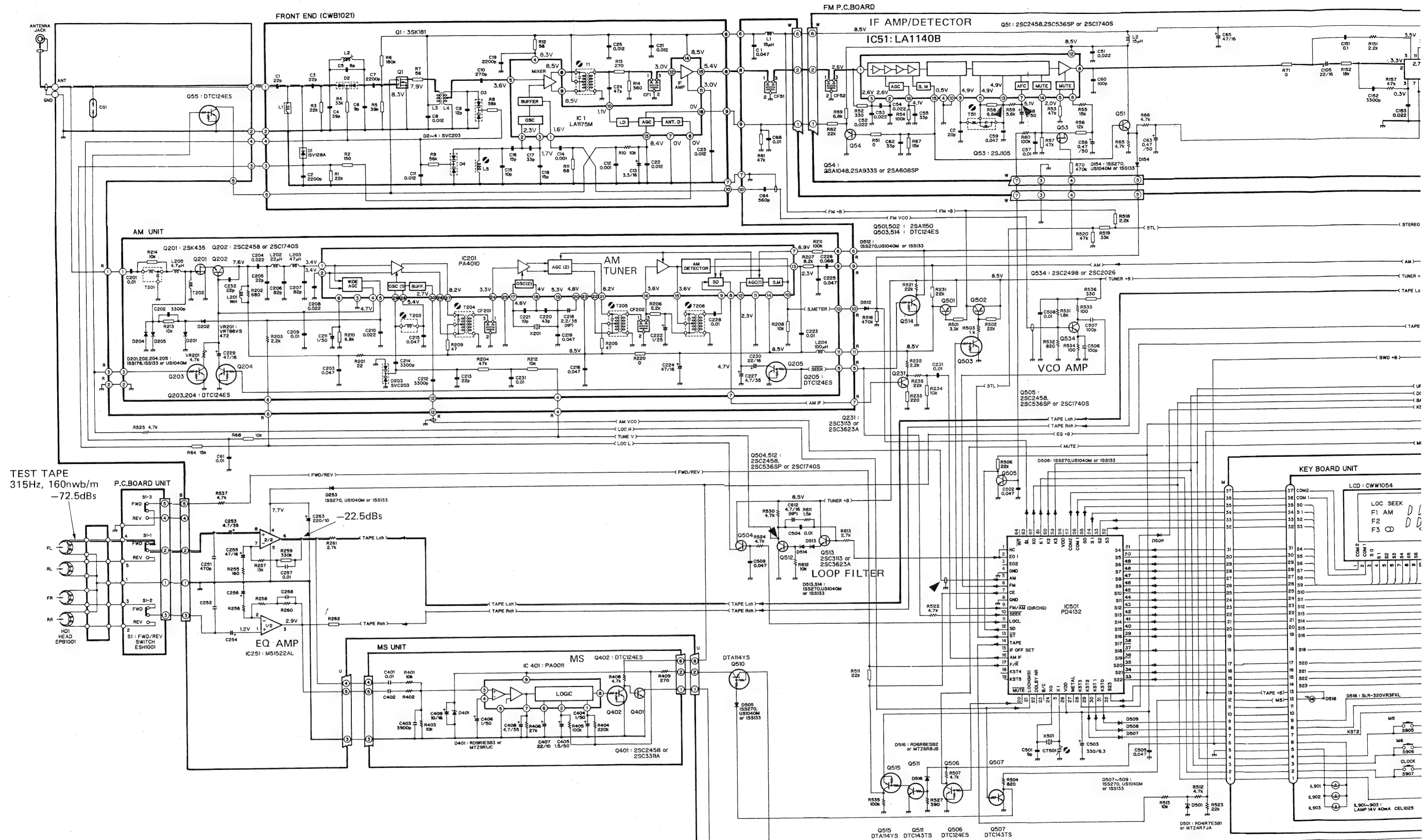
SEGMENT



COMMON

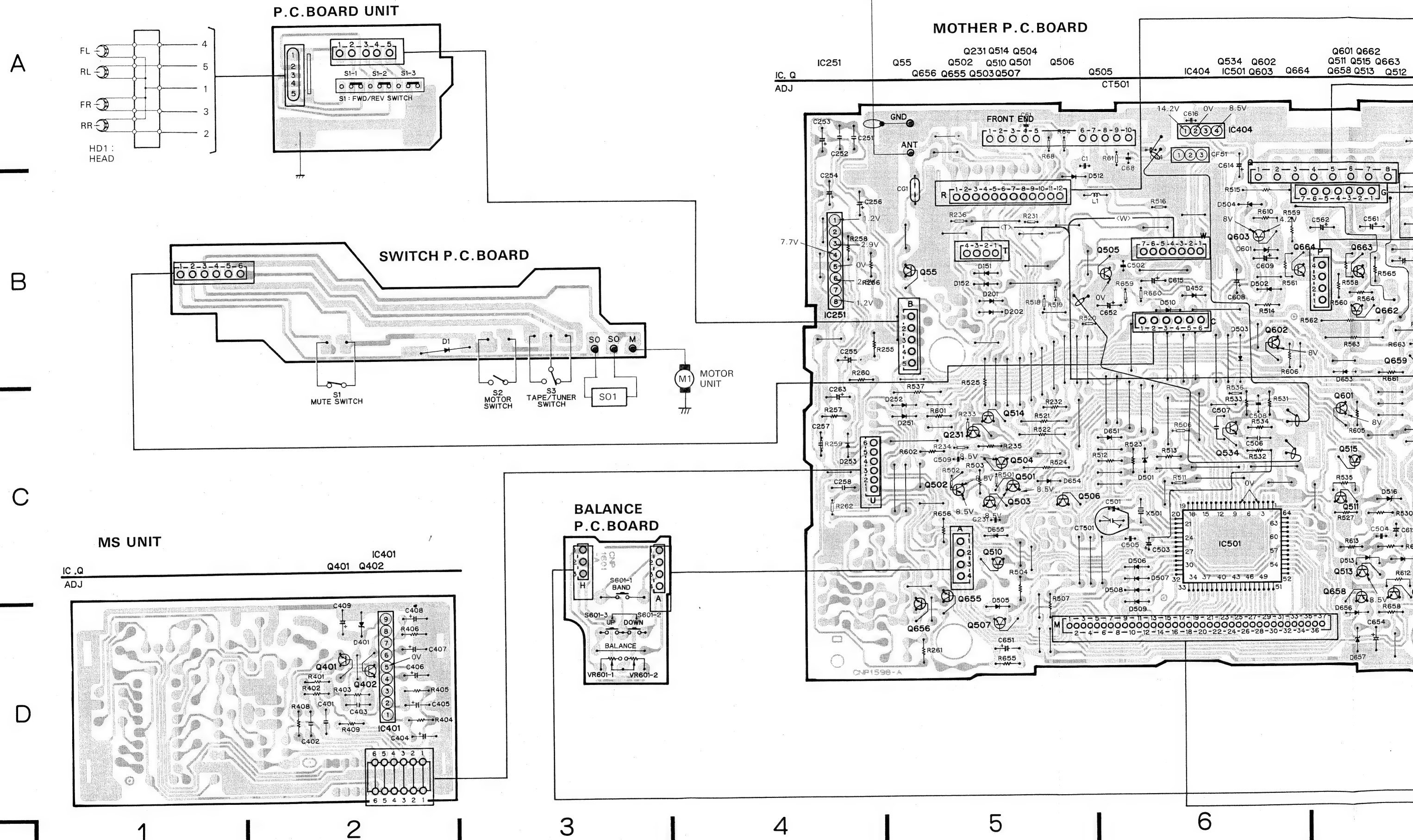


8. SCHEMATIC CIRCUIT DIAGRAM (KE-4343)





9. CONNECTION DIAGRAM (KE-4343)



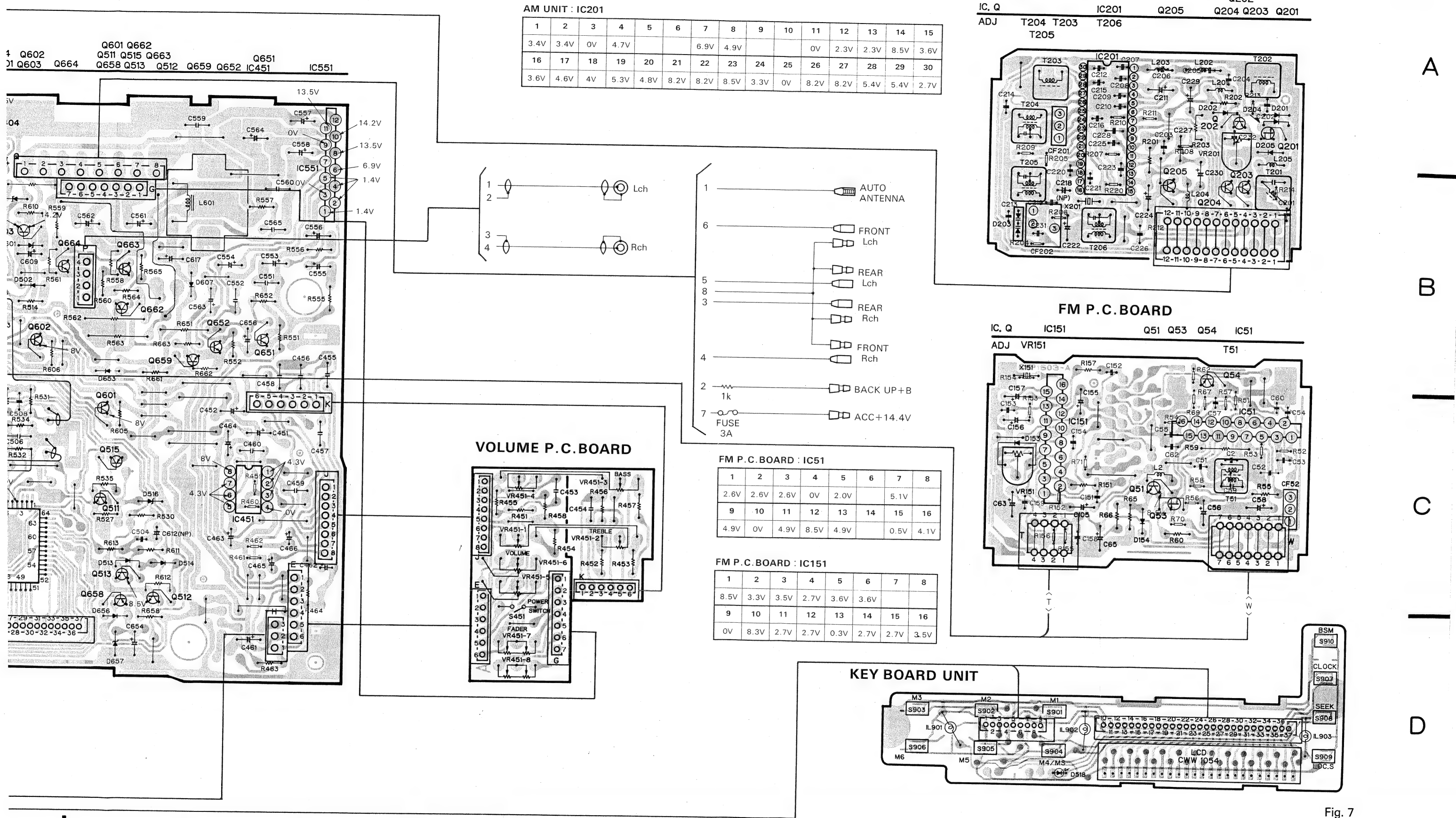
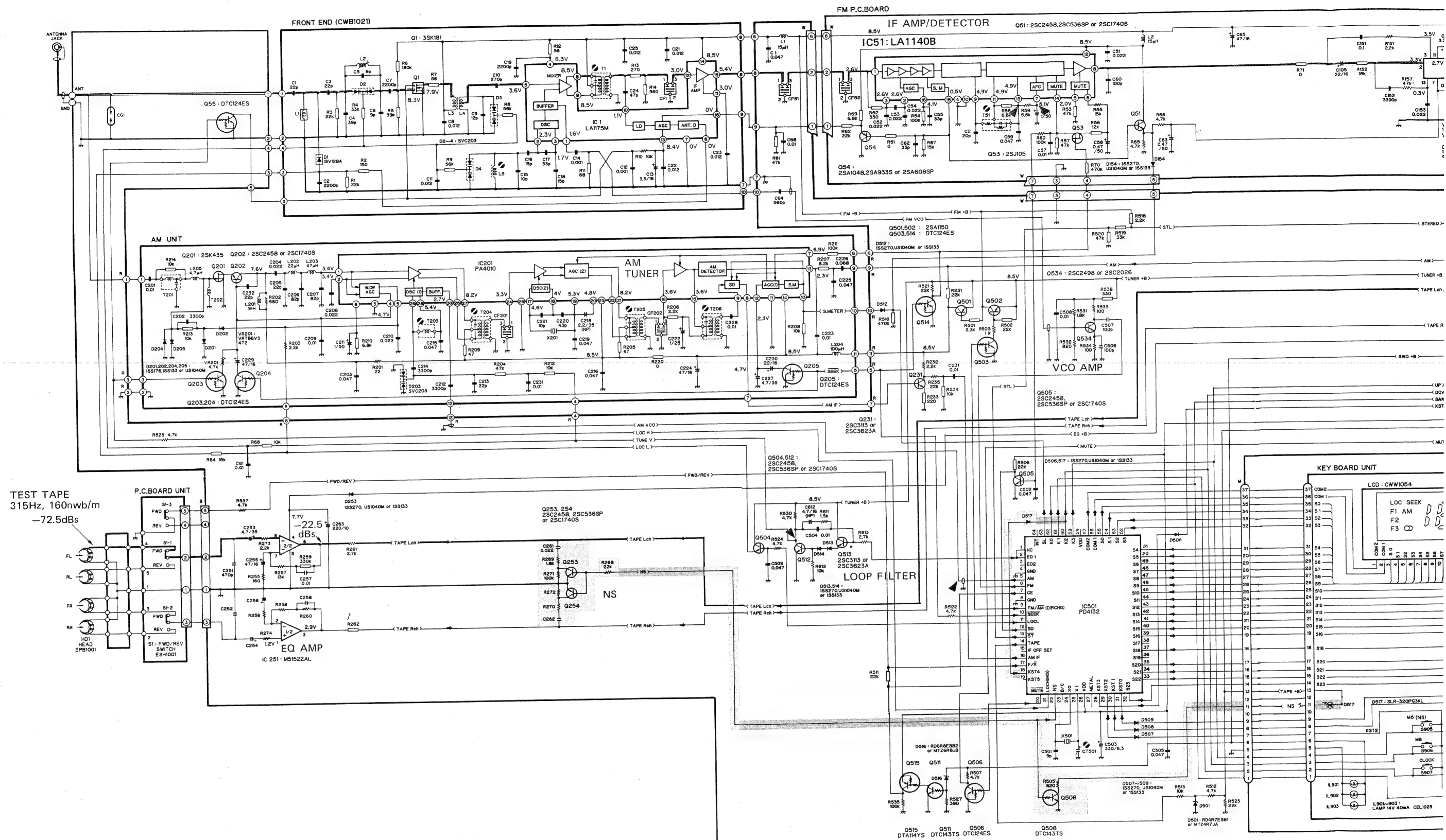
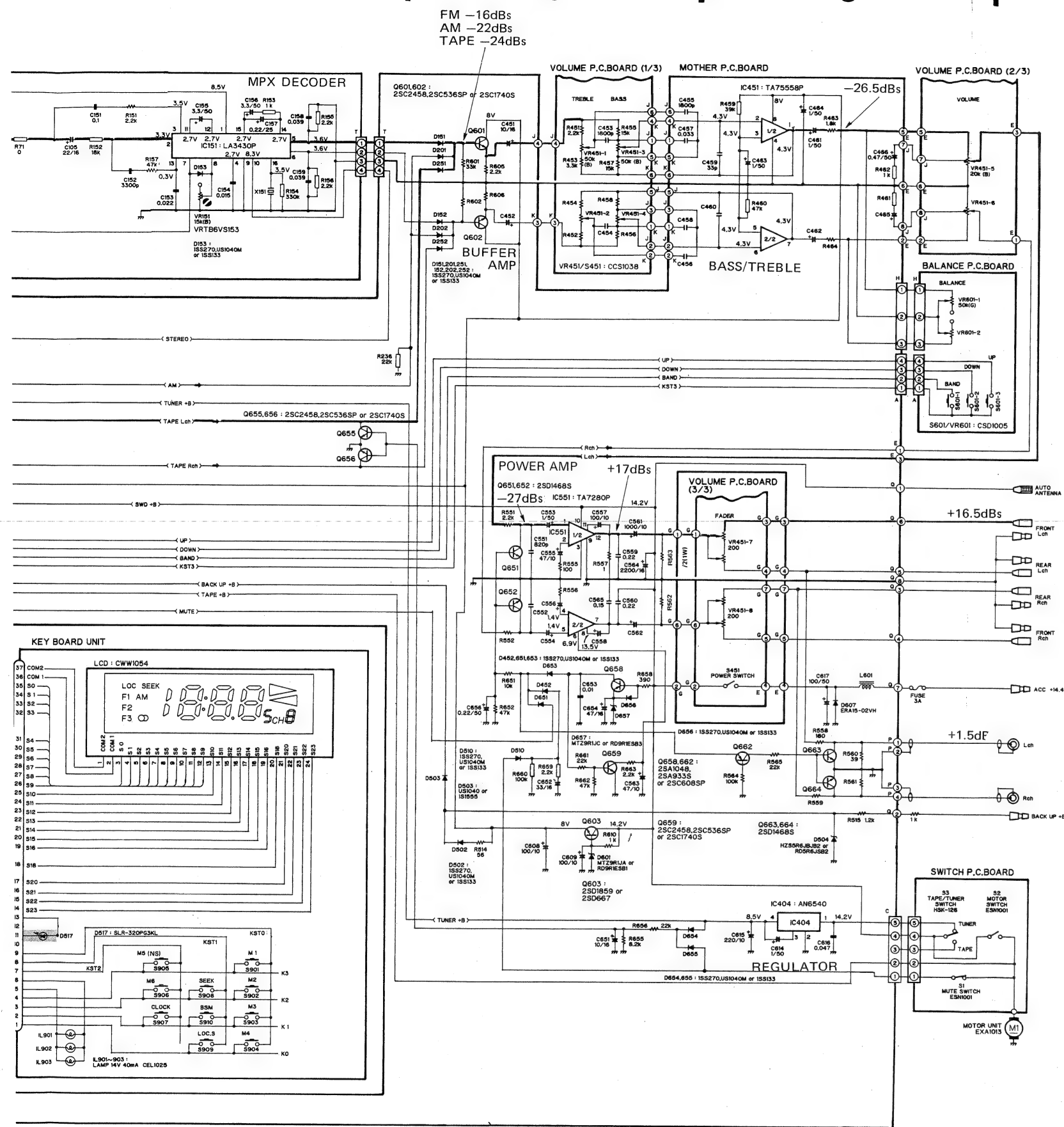


Fig. 7

10. SCHEMATIC CIRCUIT DIAGRAM (KE-3525, KE-3333)





P.C. Board Unit

Consists of

- Mother P.C. Board
- FM P.C. Board
- Volume P.C. Board
- Balance P.C. Board

NOTE:

- Indicates a chip resistor.
- Indicates a chip capacitor.
- Indicates a chip transistor.

SWITCHES:

SWITCH P.C. BOARD

- S1: MUTE SWITCH ON-OFF
- S2: MOTOR SWITCH ON-OFF
- S3: TAPE/TUNER SWITCH TAPE-TUNER

P.C. BOARD UNIT

- S1: FWD/REV SWITCH FWD-REV

VOLUME P.C. BOARD

- S451: POWER SWITCH ON-OFF

The underlined indicated the switch position.

The schematic circuit diagram for KE-3333 is the same as the KE-3525 except for following points:

1. D517 (Mother P.C. Board) has been deleted from KE-3525.
2. Q253 and Q254 (Mother P.C. Board) have been deleted from KE-3525.
3. R269 and R270 (Mother P.C. Board) have been deleted from KE-3525.
4. R271 and R272 (Mother P.C. Board) have been deleted from KE-3525.
5. C261 and C262 (Mother P.C. Board) have been deleted from KE-3525.
6. R268 (Mother P.C. Board) has been deleted from KE-3525.
7. Q508 (Mother P.C. Board) has been deleted from KE-3525.
8. R505 (Mother P.C. Board) has been deleted from KE-3525.
9. D517 (Key Board Unit) has been deleted from KE-3525.

Fig. 8

6



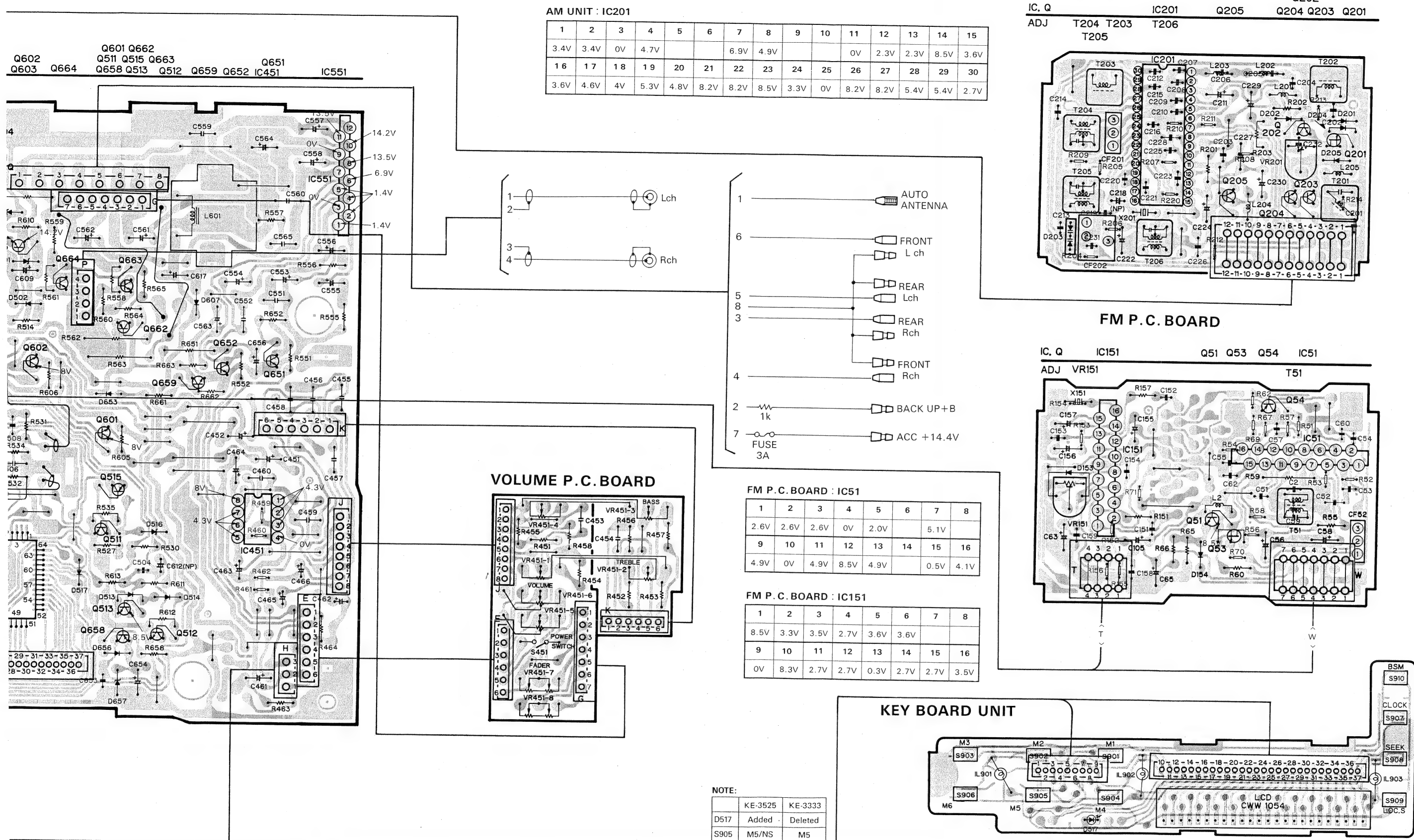
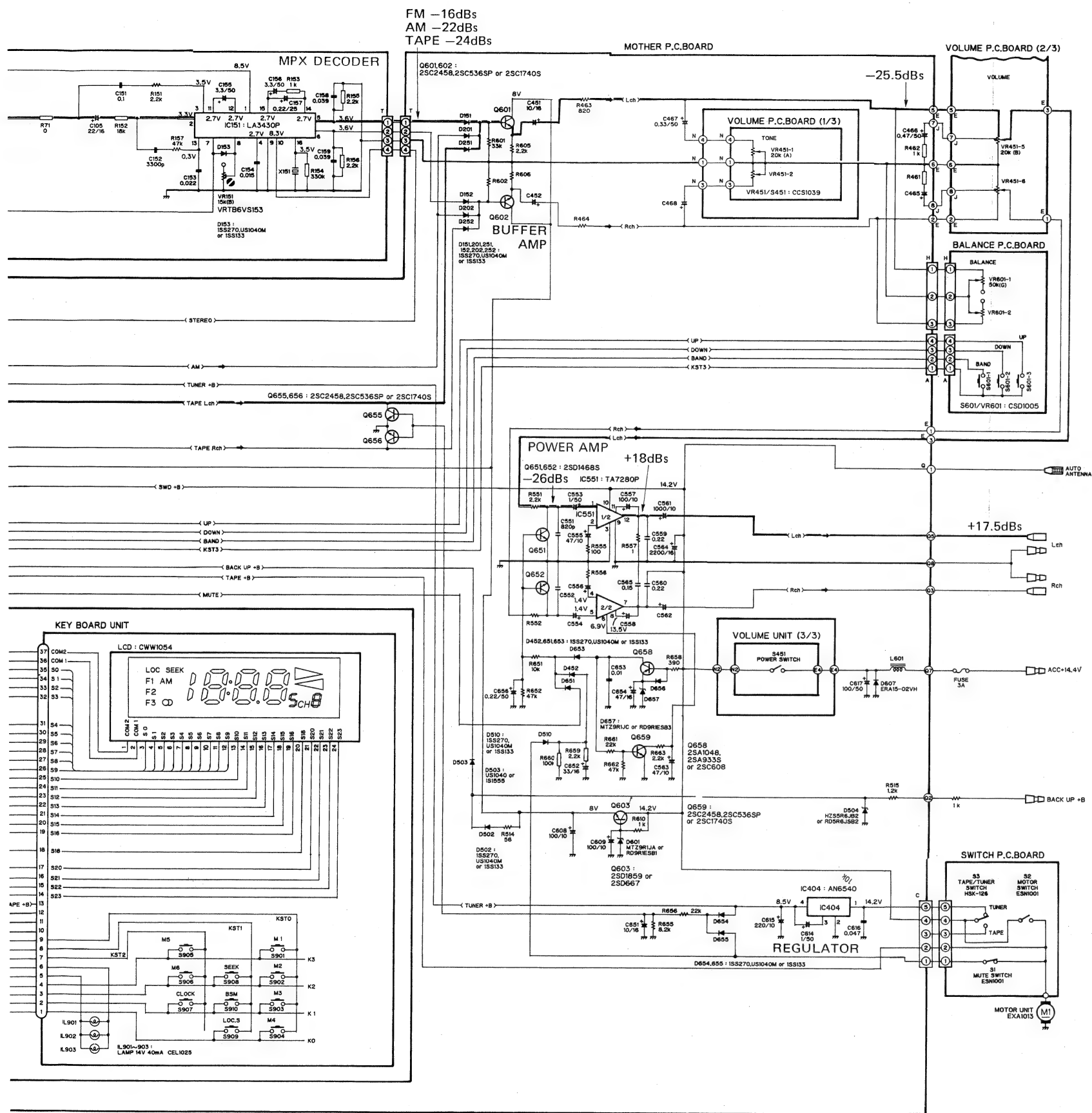


Fig. 9



P.C. Board Unit

Consists of

- Mother P.C. Board
- FM P.C. Board
- Volume P.C. Board
- Balance P.C. Board

NOTE:

- Indicates a chip resistor.
- Indicates a chip capacitor.
- Indicates a chip transistor.

SWITCHES:

SWITCH P.C. BOARD

- S1: MUTE SWITCH ON-OFF
- S2: MOTOR SWITCH ON-OFF
- S3: TAPE/TUNER SWITCH TAPE-TUNER

P.C. BOARD UNIT

- S1: FWD/REV SWITCH FWD-REV

VOLUME P.C. BOARD

- S451: POWER SWITCH ON-OFF

The underlined indicated the switch position.

Fig. 10

D





14. EXPLODED VIEW

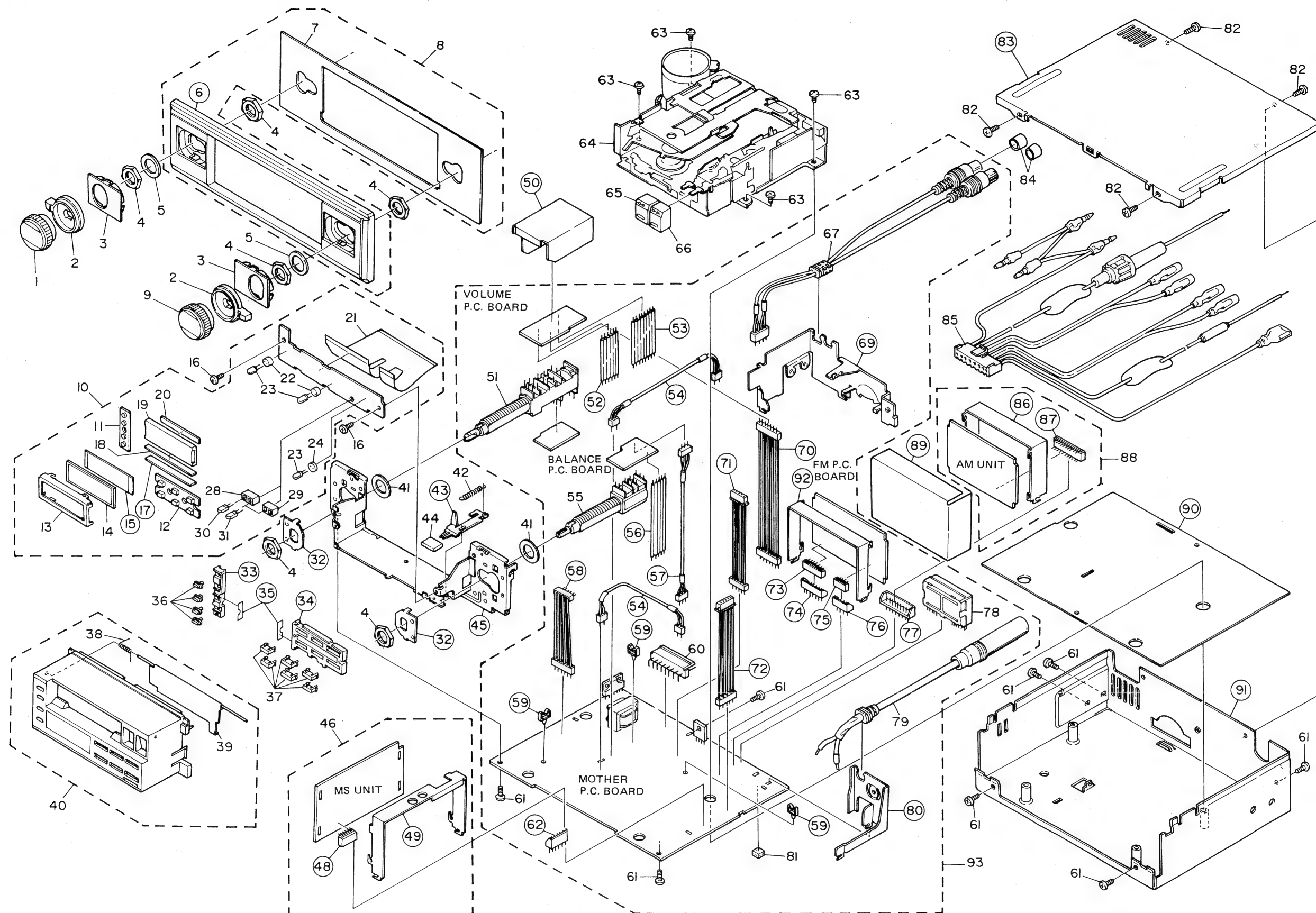


Fig. 12

• Parts List

NOTE:

- For your Parts
 ★ ★ and ★.
 ★ ★: GENERAL
 This classification
 number, temp
 • Parts whose p
 • Parts marked
 longer than us

Mark	No.	I
★	1	(
★	2	(
★	3	(
	4	(
	5	(
	6	(
	7	(
	8	(
★	9	(
★	10	(
★	11	(
★	12	(
★	13	(
★	14	(
★	15	(
★	16	F
★	17	(
★	18	(
★	19	(
★	20	(
★	21	(
★	22	(
★	23	(
★	24	(
★	25	(

• Parts List

NOTE:

- A**
- For your Parts Stock Control, the fast moving items are indicated with the marks ★ ★ and ★.
 - ★ ★: GENERALLY MOVES FASTER THAN ★.
 - This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
 - Parts whose parts numbers are omitted are subject to being not supplied.
 - Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
★	1	CAA1011	Knob (KE-4343, KE-3525, KE-3333)		26	.....
★		CAA1109	Knob (KE-2323)		27	.....
★	2	CAA1054	Knob		28	CNV1302	Bush (KE-4343)
	3	CNK-292	Cap	★	29	CNV1302	Bush (KE-3525)
					30	SLR-320VR3FKL	LED (KE-4343)
	4	CBN-028	Nut	★	31	SLR-320PG3KL	LED (KE-3525)
	5	CND-646	Spacer		32		Holder
	6		Panel (KE-4343, KE-3525, KE-3333)		33		Lens
			Panel (KE-2323)		34		Lens
					35		Plate
	7	CNG-633	Plate	★	36	CAC1712	Button
	8	CXA1968	Panel Assy (KE-4343, KE-3525, KE-3333)	★	37	CAC1540	Button
		CXA1975	Panel Assy (KE-2323)		38	CBH1033	Spring
★	9	CAA1113	Knob (KE-4343, KE-3333, KE-2323)		39	CAT1117	Door (KE-4343)
						CAT1120	Door (KE-3525)
★		CAA1122	Knob (KE-3525)			CAT1119	Door (KE-3333, 2323)
●	10	CWS1090	Key Board Unit (KE-4343)		40	CXA2003	Grille Unit (KE-4343)
●		CWS1092	Key Board Unit (KE-3525)			CXA2006	Grille Unit (KE-3525)
●		CWS1093	Key Board Unit (KE-3333, KE-2323)			CXA2005	Grille Unit (KE-3333)
						CXA2007	Grille Unit (KE-2323)
	11	CNV1375	Rubber		41	CBE-084	Spacer
	12	CNV1760	Rubber		42	CBH1084	Spring
	13	CNH-136	Holder	★	43		Lever
	14	CWW1054	LCD		44	CAC1550	Button
	15		Plate		45		Frame Unit
				●	46	CWM1455	MS Unit (KE-4343)
	16	PMZ20P050FMC	Screw		47	.....
	17		Insulator		48		Connector (KE-4343)
	18	CNY-214	Connector		49		Holder (KE-4343)
	19	CNY-215	Lens		50		Insulator
	20	CNN-137	Spacer				
	21	CNP1670	P.C. Board	★★	51	CCS1038	Volume (KE-4343, KE-3525, KE-3333)
	22	CNV1088	Bush	★★		CCS1039	Volume (KE-2323)
★★	23	CEL1025	Lamp		52		Connector
	24	CNV1102	Bush				
	25	.....				

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	53		Connector (8P) (KE-4343, KE-3525, KE-3333)		73		Connector
			Connector (2P) (KE-2323)		74		Plug
	54		Connector		75		Connector
★★	55	CSD1005	Switch		76		Plug
					77		Plug
	56		Connector		78	CWB1021	Front End
	57		Connector		79	CDH1069	Antenna Cable
	58		Connector (KE-4343, KE-3525, KE-3333)		80		Holder
			Clamper		81	CNN-412	Cushion
	59				82	BMZ30P040FMC	Screw
	60	CKS-465	Plug		83		Case
	61	BMZ30P060FMC	Screw		84	CNW-829	Cap (KE-4343, KE-3525, KE-3333)
	62		Plug (KE-4343)		85	CDE1769	Cord Assy (KE-4343, KE-3525, KE-3333)
●	63	BMZ26P050FMC	Screw			CDE1770	Cord Assy (KE-2323)
	64	EXK1010	Cassette Mechanism Assy (KE-4343)				
●		EXK1130	Cassette Mechanism Assy (KE-3525, KE-3333, KE-2323)		86		Holder
★★	65	CAC1358	Button (◁▷)	●	87		Plug
★★	66	CAC1357	Button (▷▷)		88	CWA1009	AM Unit
					89		Insulator
	67	CDE1674	Connector (KE-4343, KE-3525, KE-3333)		90		Insulator
	68	.....			91		Chassis Unit (KE-4343, KE-3525, KE-3333)
	69		Heat Sink				Chassis Unit (KE-2323)
	70		Connector (7P) (KE-4343, KE-3525, KE-3333)		92		Holder
				●	93	CWM1439	P.C. Board Unit (KE-4343)
	71		Connector (4P) (KE-2323)	●		CWM1447	P.C. Board Unit (KE-3525)
			Connector (6P) (KE-4343)	●		CWM1445	P.C. Board Unit (KE-3333)
	72		Connector (5P) (KE-3525, KE-3333, KE-2323)	●		CWM1451	P.C. Board Unit (KE-2323)
			Connector				

15. CASSETTE MECHANISM ASSY EXPLODED VIEW

Parts List

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
★★	1	EXA1013	Motor Unit		41	EXA1014	Cassette Frame Unit
	2	EBA1008	Screw(KE-4343)		42	PMS20P040FMC	Screw
★	3	EXP1001	Solenoid(KE-4343)		43	ENV1016	Tape Guide
4,5	.....				44	EBH1047	Spring
	6	EBH1056	Spring(KE-4343)		45		Lever
		EBH1011	Spring(KE-3525, 3333, 2323)		46		Arm
	7	CBF-166	Washer		47	EBH1040	Spring
★★	8	EXA1012	Reel Unit		48	EBH1041	Spring
	9	BMZ23P030FMC	Screw		49	EBH1021	Spring
					50		Lever
	10	BSZ23P040FMC	Screw		51	EBE1001	Washer
	11		Bracket		52	EBH1009	Spring
	12	PMS26P025FUC	Screw	★★	53	ENT1004	Belt
	13	ENC1013	Cassette Holder		54	ENV1034	Gear
	14	EBH1019	Spring		55	CBF-135	Washer
					56	ENV1014	Gear
	15	EBA1009	Screw		57		Cover
	16	ELA1042	Collar		58	EBA1011	Screw
	17	ENV1032	Arm		59	BMZ20P050FMC	Screw
	18	ENV1031	Arm	★★	60	EPB1001	Head
	19	YE12FUC	Washer				
					61	CBH-198	Spring
	20	EBH1038	Spring(KE-4343)		62	ENP1003	P.C.Board
	21	EBH1012	Spring(KE-4343)		63		Arm
	22		Lever Unit(KE-4343)		64	EXA1004	Head Base Unit
	23	YE15FUC	Washer		65	EBH1004	Spring
	24	CBF-165	Washer				
					66	EBH1003	Spring
	25	EBH1049	Spring		67	CNY-265	Cushion
	26		Arm		68	YE20FUC	Washer
	27	EBH1037	Spring	★★	69	EXA1002	Roller Unit
	28	EBH1039	Spring		70		Chassis Unit
	29		Arm				
					71	EBF1004	Washer
	30		Arm		72	ENV1009	Pulley
	31	.....			73		Lever
	32		Arm(KE-4343)		74	EBH1025	Spring
			Arm(KE-3525, 3333, 2323)		75	EBL1001	Spring
	33	EBH1008	Spring(KE-4343)		76	ENV1010	Pulley
		EBH1050	Spring(KE-3525, 3333, 2323)		77		Arm
					78	HBA-147	Screw
	34		Arm Unit		79	ENV1035	Gear
	35	CBG1001	Washer		80	ELA1018	Collar
	36	HBF-179	Washer		81		Arm
	37	ENV1029	Flywheel(N)		82		Plug
	38	ENV1030	Flywheel(R)		83	ENV1011	Gear
★★	39	ENT1003	Belt		84		Arm
40	.....				85	EBH1024	Spring

Cassette Mechanism Assy

A

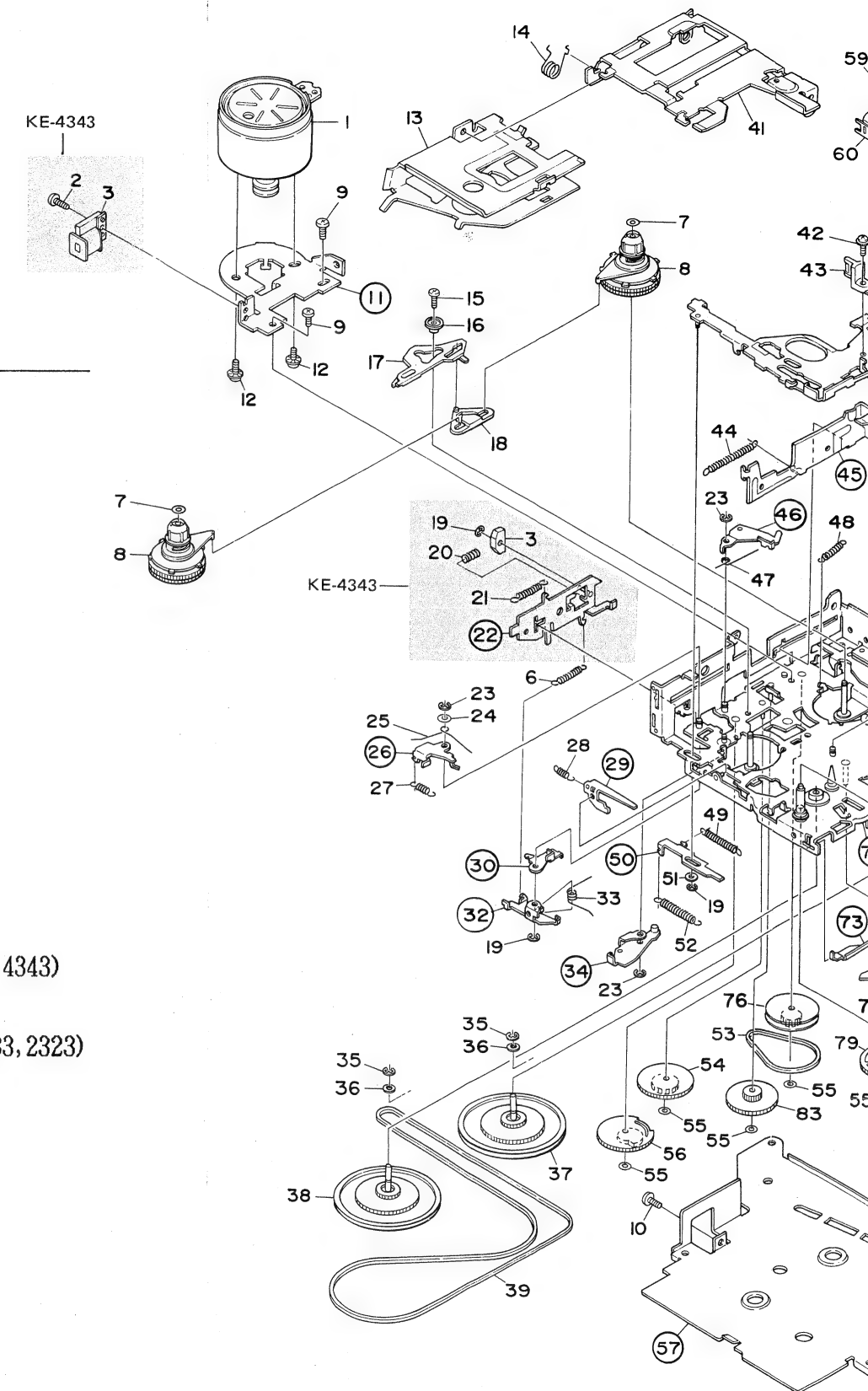
B

C

D

Mark	No.	Part No.	Description
	86		Ratchet
	87	EBH1018	Spring
★★	88	EXA1003	Roller Unit
	89		Arm
	90		Lever
	91	EBH1013	Spring
	92	*	
	93	ENV1038	Gear
	94	ELA1032	Collar
	95	HBA-212	Screw
	96	EBH1007	Spring
	97	EBH1006	Spring
	98	EBH1014	Spring
	99	EBF1005	Washer
	100		Arm Unit
	101	ENV1018	Gear
	102	ENV1017	Gear
	103	EBH1022	Spring
	104	EXA1005	Arm Unit
	105		Plug (6P) (KE-4343)
			Plug (5P) (KE-3525, 3333, 2323)
	106	EBA1010	Screw
	107	BMZ20P070FMC	Screw
	108		Bracket
	109	EBH1016	Spring
	110		Lever Unit
	111	EBH1048	Spring
	112	EBH1005	Spring
	113		Lever
	114		Lever
	115		Arm
	116	WH23FMC	Washer

*) Number 92 is part of the chassis unit and cannot be removed.



Cassette Mechanism Assy

A

B

C

D

A

B

C

D

Mark No.	Part No.	Description
86		Ratchet
87	EBH1018	Spring
★★ 88	EXA1003	Roller Unit
89		Arm
90		Lever
91	EBH1013	Spring
92	*	
93	ENV1038	Gear
94	ELA1032	Collar
95	HBA-212	Screw
96	EBH1007	Spring
97	EBH1006	Spring
98	EBH1014	Spring
99	EBF1005	Washer
100		Arm Unit
101	ENV1018	Gear
102	ENV1017	Gear
103	EBH1022	Spring
104	EXA1005	Arm Unit
105		Plug (6P) (KE-4343)
		Plug (5P) (KE-3525, 3333, 2323)
106	EBA1010	Screw
107	BMZ20P070FMC	Screw
108		Bracket
109	EBH1016	Spring
110		Lever Unit
111	EBH1048	Spring
112	EBH1005	Spring
113		Lever
114		Lever
115		Arm
116	WH23FMC	Washer

*)Number 92 is part of the chassis unit and cannot be removed.

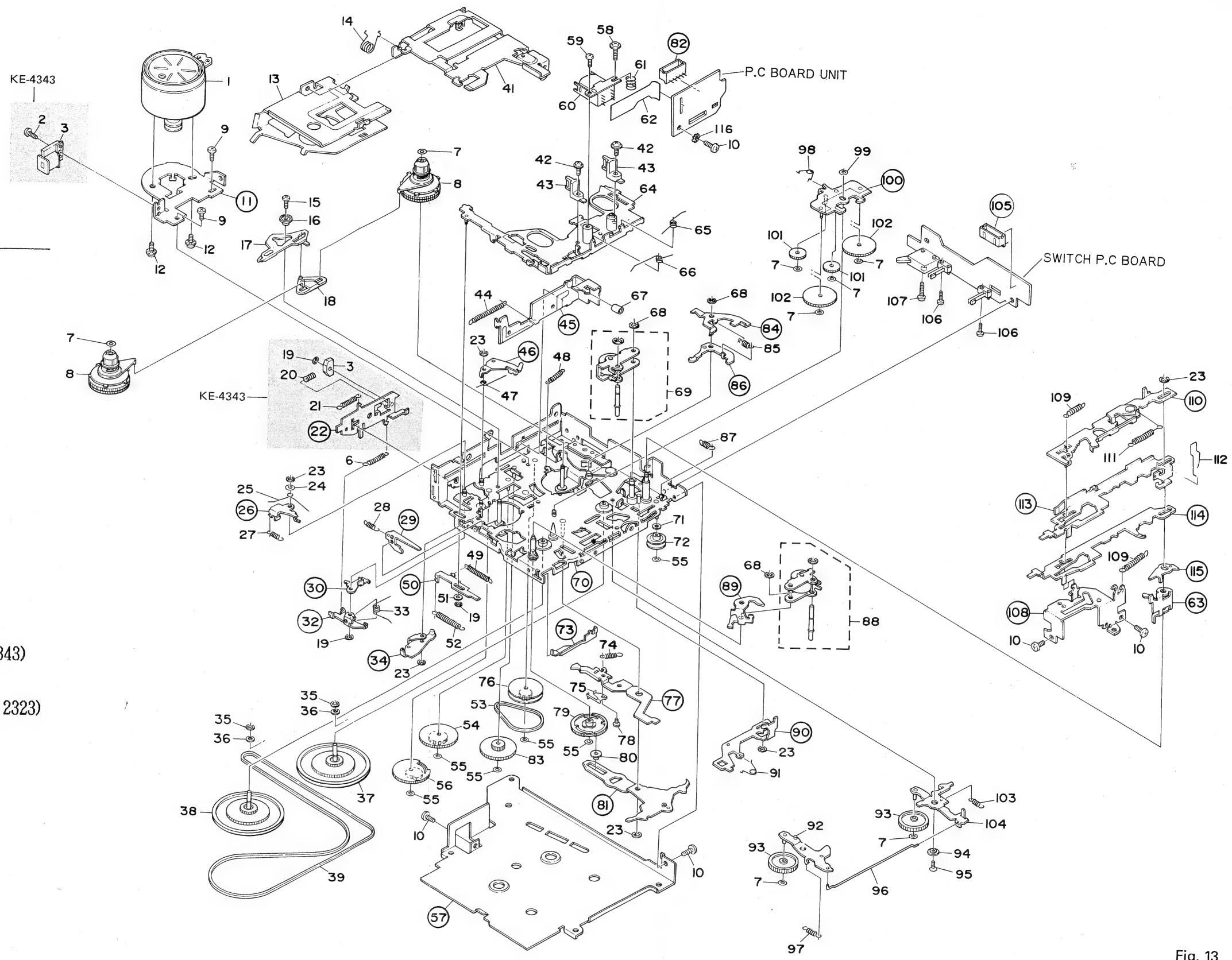


Fig. 13

16. ELECTRICAL PARTS LIST

- NOTE:
- For your parts Stock Control, the fast moving items are indicated with the marks ** and *.
 - ** : GENERALLY MOVES FASTER THAN *.
 - This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.'
 - Parts whose parts numbers are omitted are subject to being not supplied.
 - The part numbers shown below indicate chip components.
- Chip Resistor
RS1/8S□□□J, RS1/10S□□□J
Chip Capacitor (except for CQS.....)
CKS....., CCS....., CSZS.....

Unit Number :
Unit Name : AM Unit

MISCELLANEOUS				CAPACITORS					
Mark	=====	Circuit Symbol & No.	==== Part Name	Part No.	Mark	=====	Circuit Symbol & No.	==== Part Name	Part No.
**	IC	201		PA4010	C	201 209 223 231			CKSQYB103K50
**	Q	201		2SK435	C	202 212 214			CKSQYB332K50
**	Q	202		2SC2458	C	203 215 216 219			CKSQYF473Z50
				(2SC1740S)	C	204 208 210			CKSQYB223K50
**	Q	203 204 205		DTC124ES	C	205 213			CCSQCH220J50
*	D	201 202 204 205		1SS176	C	206 207			CCSQCH820J50
				(1SS133)	C	211			CEA010M50LS2
				(US1040M)	C	218			CEA2R2M35NPL
*	D	203	Variable Capacitance Diode	SVC203-AB	C	220			CCSQCH430J50
L	201		Ferri-Inductor	CTF1026	C	221			CCSQCH100050
L	202		Ferri-Inductor	LAU220K	C	222			CSZA010K25
L	203		Ferri-Inductor	LAU470K	C	224 229			CEA470M16LS
L	204		Ferri-Inductor	CTF-157	C	225			CKSQYF333Z50
L	205		Ferri-Inductor	LAU4R7K	C	226			CKSYF683Z50
T	201		Coil	CTB1020	C	227			CEA4R7M35LS
T	202		Coil	CTB1004	C	228			CKSYB103K50
T	203		Coil	CTB1017	C	230			CEA220M16LS
T	204		Coil	CTE1013	C	232			CCSQCH220J50
T	205		Coil	CTE1014					
T	206		Coil	CTE1015					
CF	201		Filter	CTF1027					
CF	202		Filter	CTF-100					
X	201		Xtal Resonator	CSS1014					
**	VR	201	Semi-fixed 4.7kΩ(B)	VRTB6VS472					

P.C.Board Unit

Consists of

- Mother P.C.Board
- FM P.C.Board
- Volume P.C.Board
- Balance P.C.Board

Mark	=====	Circuit Symbol & No.	==== Part Name	Part No.
R	201			RD1/4PS220JL
R	202			RD1/4PS681JL
R	203			RD1/4PS222JL
R	204			RS1/10S473J
R	205			RS1/10S470J
R	206			RS1/10S222J
R	207			RS1/10S822J
R	208 212 213 214			RS1/10S103J
R	209			RS1/8S470J
R	210			RS1/10S682J
R	211			RS1/10S104J
R	220			RS1/8S0R0J

Unit Number :
Unit Name : P.C.Board Unit

MISCELLANEOUS

Mark	=====	Circuit Symbol & No.	==== Part Name	Part No.
**	IC	51		LA1140B
**	IC	151		LA3430P
**	IC	251		M51522AL
**	IC	404		AN6540
**	IC	451(KE-4343, KE-3525, KE-3333)		TA75558P

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.	Mark	====	
** IC	501			PD4132		* D	657	MTZ9R1JC
** IC	551			TA7280P				(RD9R1ESB3)
** Q	51 504 505 512 601 602 655 656 659			2SC2458	L 1 2			LAU150K
				(2SC536SP)	L 601			CTF-002
				(2SC1740S)	T 51			CTC1029
** Q	53			2SJ105	CT 501			CCG-070
** Q	54 658			2SA1048	CG 1			CCX-006
				(2SA933S)	CF 51 52			CTF-182
				(2SA608SP)	X 151			CSS1028
** Q	55 503 506 514			DTC124ES				(CSS1022)
** Q	231 513			2SC3113	X 501			CSS1011
				(2SC3623A)	** S 601/VR 601			CSD1005
** Q	253(KE-3525) 254(KE-3525)			2SC2458	** VR 151			VRTB6VS153
				(2SC536SP)	** VR 451/S			CSS1038
				(2SC1740S)				
** Q	501 502			2SA1150	** VR 451/S			CCS1039
** Q	507(KE-4343)			DTC143TS				
** Q	508(KE-3525)			DTC143TS				
** Q	510(KE-4343)			DTA114YS				
** Q	511			DTC143TS				
** Q	515			DTA114YS				
** Q	534			2SC2498				
				(2SC2026)				
** Q	603			2SD1859				
				(2SD667)				
** Q	651 652			2SD1468S				
** Q	662(KE-4343, KE-3525, KE-3333)			2SA1048				
				(2SA933S)				
				(2SA608SP)				
** Q	663(KE-4343, KE-3525, KE-3333)			2SD1468S				
** Q	664(KE-4343, KE-3525, KE-3333)			2SD1468S				
* D	151 152 153 154 201 202 251 252 253 452			1SS270				
				(US1040M)				
				(1SS133)				
* D	501			RD4R7ESB1				
				(MTZ4R7JA)				
* D	502 506 507 508 509 510 512 513 514			1SS270				
				(US1040M)				
				(1SS133)				
* D	503			US1040				
				(1S1555)				
* D	504			HZS5R6JB2				
				(RD5R6JSB2)				
* D	505(KE-4343)			1SS270				
				(US1040M)				
				(1SS133)				
* D	516			RD6R8ESB2				
				(MTZ6R8JB)				
* D	517(KE-3525)			1SS270				
				(US1040M)				
				(1SS133)				
* D	601			MTZ9R1JA				
				(RD9R1ESB1)				
* D	607			ERA15-02VH				
* D	651 653 654 655 656			1SS270				
				(US1040M)				
				(1SS133)				

Mark	====	Circuit Symbol & No.	====	Part Name	Part No.	Mark	====	

K50
K50
Z50
K50
J50

J50
LS
NPLL
J50
D50

5
LS
Z50
50
LS

50
LS
J50

49

Mark ===== Circuit Symbol & No. ===== Part Name Part No. Unit Number :
Unit Name : Switch P.C.Board

C 565 CQMA154J50
C 612 4.7 μ F/16V CCH1005
C 614 CEA010M50LS2
C 615 CEA221M10L2
C 617 CEA101M50L2

C 651 CEA100M16LS
C 652 CEA330M16LS
C 654 CEA470M16LS
C 656 CEAR22M50LS2

Mark ===== Circuit Symbol & No. ===== Part Name Part No.
* D 1(KE-4343) F1SR35-100A
** S 1 2 Switch(Mute, Motor) ESN1001
** S 3 Switch HSK-126

Unit Number :
Unit Name : P.C.Board Unit

Unit Number :
Unit Name : MS Unit(KE-4343)

Mark ===== Circuit Symbol & No. ===== Part Name Part No.
** S 1 Switch(FWD/REV) ESH1001

MISCELLANEOUS

Miscellaneous Parts List

Mark ===== Circuit Symbol & No. ===== Part Name Part No.
** IC 401 PA0011
** Q 401 2SC3311A
(2SC2458)
** Q 402 DTC124ES
* D 401 RD9R1ESB3
(MTZ9R1JC)

Mark ===== Circuit Symbol & No. ===== Part Name Part No.
** HD 1 Head EPB1001
** M 1 Motor Unit EXA1013
* SO 1(KE-4343) Solenoid EXP1001

RESISTORS

Mark ===== Circuit Symbol & No. ===== Part Name Part No.
R 401 402 403 RD1/4PS103JL
R 404 RD1/4PS224JL
R 405 RD1/4PS104JL
R 406 RD1/4PS273JL
R 408 RD1/4PS472JL

R 409 RD1/4PS271JL

CAPACITORS

Mark ===== Circuit Symbol & No. ===== Part Name Part No.
C 401 402 CGCYX103K25
C 403 CGCYX392K25
C 404 406 CEA010M50LL
C 405 CEA1R5M50LL
C 407 CEA220M10LL

C 408 CEA4R7M35LL
C 409 CEA100M16LL

Unit Number :
Unit Name : Key Board Unit

Mark ===== Circuit Symbol & No. ===== Part Name Part No.
** IL 901 902 903 Lamp 14V 40mA CEL1025
* D 517(KE-3525) LED SLR-320PG3KL
* D 518(KE-4343) LED SLR-320VR3FKL
LCD CW1054

17. PACKING METHOD

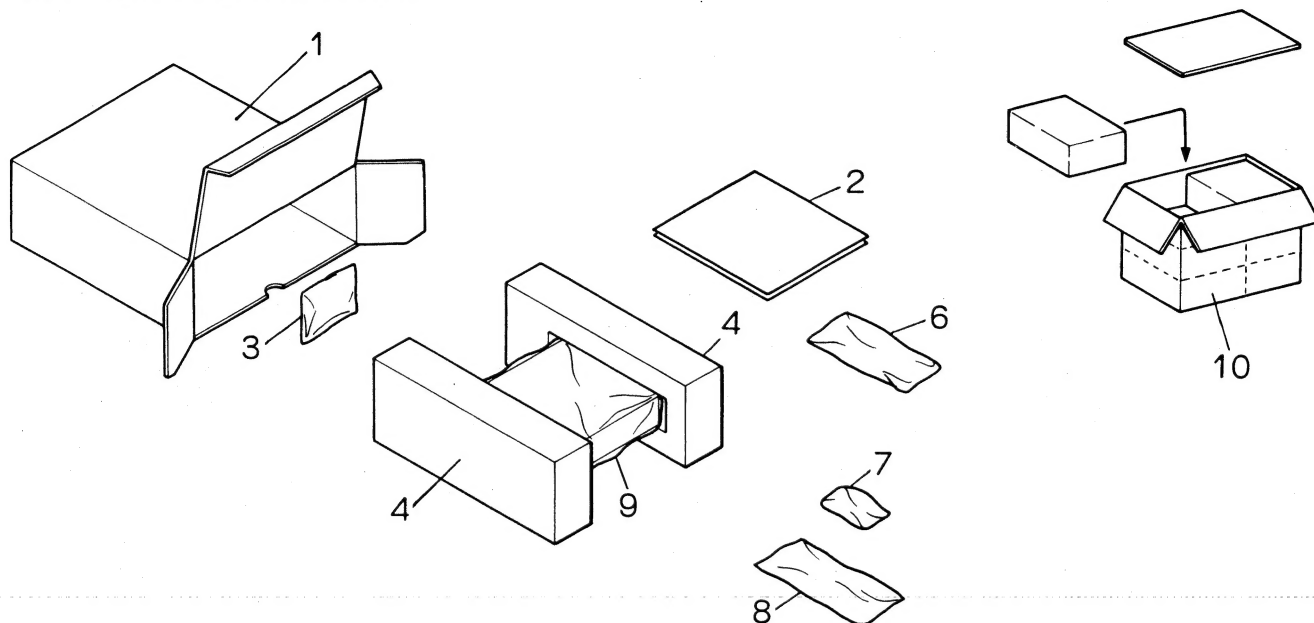


Fig. 14

●Parts List

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	1	CHG1409	Carton (KE-4343)	6-2	CNG-633	Plate	
		CHG1428	Carton (KE-3525)	7	CDE1769	Cord Assy	
		CHG1412	Carton (KE-3333)			(KE-4343, 3525, 3333)	
		CHG1413	Carton (KE-2323)		CDE1770	Cord Assy (KE-2323)	
	2	CRD1174	Owner's Manual	8	CEA1313	Accessory Assy	
			(KE-4343, 3333, 2323)	8-1	CDE1289	Cord	
		CRB1107	Owner's Manual (KE-3525)	8-2	CNF-111	Strap	
			Card	8-3	CNV-769	Washer	
			Caution Card	8-4	CEA-215	Screw Kit	
	3	CXA1969	Knob Assy (KE-4343, 3333)	8-4-1	WS40FMC	Washer	
		CXA1979	Knob Assy (KE-3525)	8-4-2	NF40FMC	Nut	
		CXA1970	Knob Assy (KE-2323)	8-4-3	NF50FMC	Nut	
★	3-1	CAA1011	Knob (KE-4343, 3525, 3333)	8-4-4	CBA-028	Screw	
★		CAA1109	Knob (KE-2323)	8-4-5	CBN-028	Nut	
★	3-2	CAA1054	Knob	8-4-6	CND-646	Spacer	
★	3-3	CAA1113	Knob (KE-4343, 3333, 2323)	8-4-7	PMB50Y160FMC	Screw	
★		CAA1122	Knob (KE-3525)	9	CEG-215	Polyethylene Bag	
	3-4	CNK-292	Cap	10	CHL1409	Contain Box (KE-4343)	
	4	CHP1064	Styrofoam		CHL1428	Contain Box (KE-3525)	
	5	.....			CHL1412	Contain Box (KE-3333)	
	6	CXA1968	Panel Assy		CHL1413	Contain Box (KE-2323)	
			(KE-4343, 3525, 3333)				
		CXA1975	Panel Assy (KE-2323)				
	6-1		Panel (KE-4343, 3525, 3333)				
			Panel (KE-2323)				